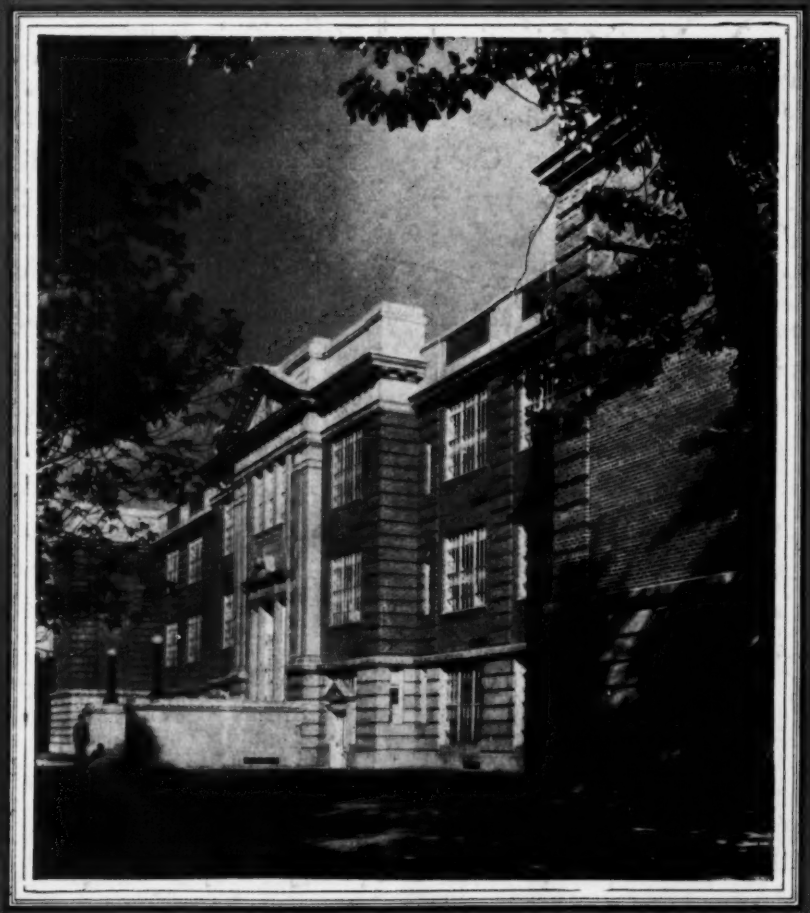
The NATION'S SCHOOLS

DEVOTED TO THE APPLICATION OF RESEARCH TO THE BUILDING, EQUIPMENT AND ADMINISTRATION OF SCHOOLS



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No. 2

FEBRUARY
1930

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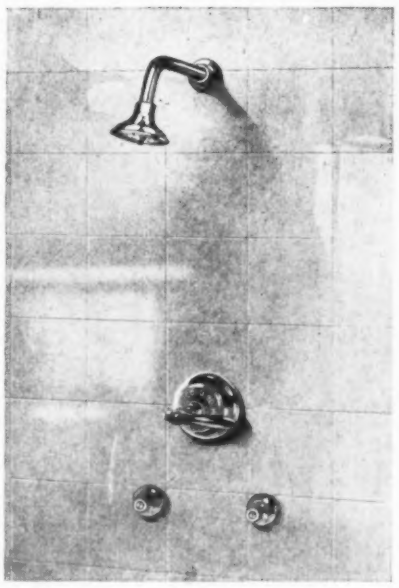
The Educational Buyer answers the question, "What is good buying?"

A recent editorial in the *Educational Buyer* states, "More and more I am convinced that good buying does not consist in driving prices down. Good buying is largely conditioned by the ability of the buyer to find the best source for each particular product."

This is sound advice . . . difficult to carry out in some instances, perhaps, but certainly not in matters of plumbing and heating. Too many school boards have blazed the way. Too many of them can show the saving in time, records and money which follows ordering materials from Crane Co.—the one source from which they can secure every type of valve, pipe fitting or fixture.



This Crane shower, C4364A, reduces maintenance expenses through good engineering. The mixing valve with which it is equipped is made to guard against leakage behind the wall, and liming up

Too many of them have experienced the lasting economies which a complete Crane installation brings—the lessened maintenance, the lowered repairs and replacements.

To complete its service to school boards, Crane Co. maintains 190 branches, sales rooms, and warehouses, at centrally located points throughout the country. The next time a plumbing or heating problem arises, visit the nearest one of these. You will find Crane experience as valuable as Crane service.

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Builders of Successful Heating and Ventilating Equipment Exclusively

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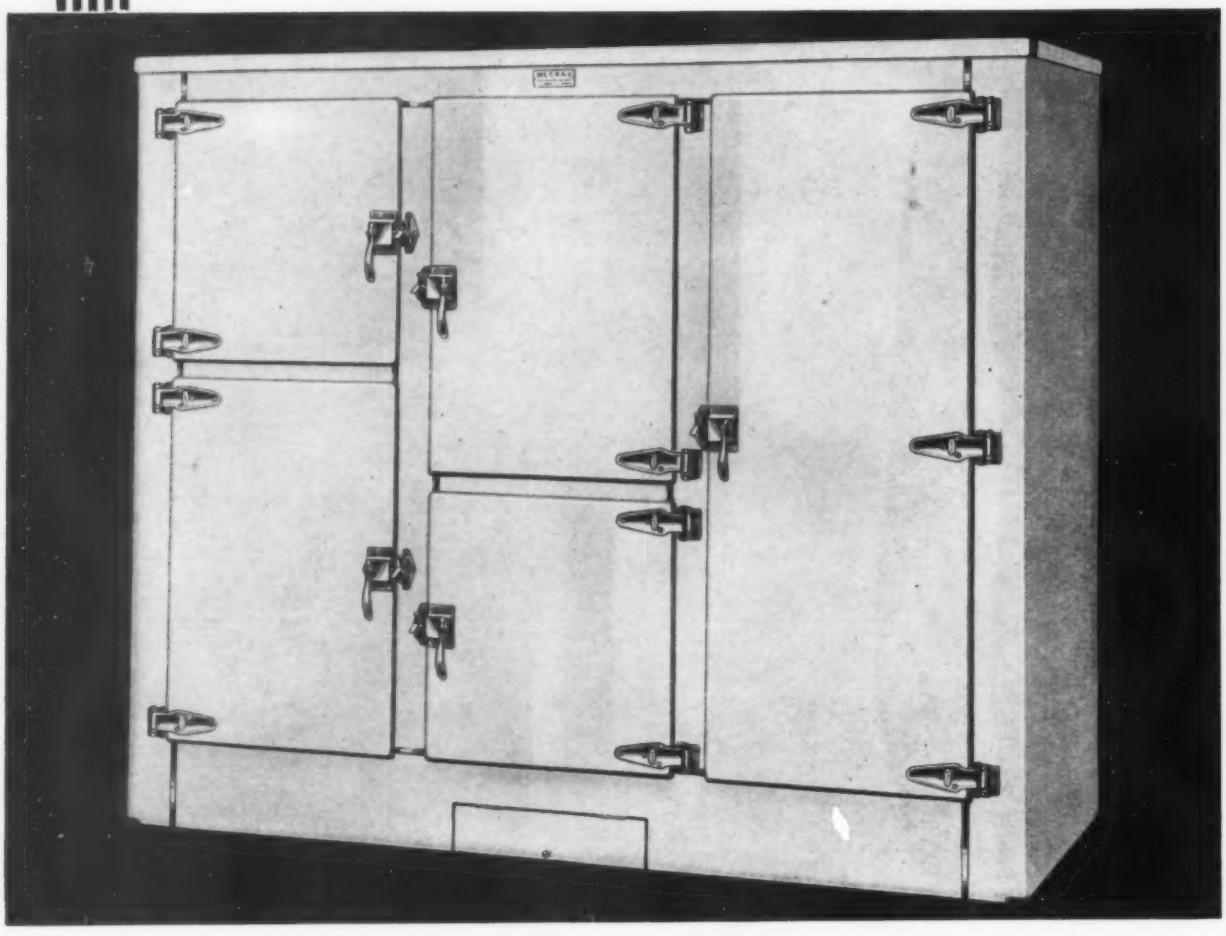
a NEW McCRAY Porcelain Inside and Out



GLEAMING white porcelain inside and out, impressive beauty of line, blue-gray trim, finest modern hardware—these details give a hint of the beauty of the new McCray No. P332, one of a series of All-Porcelain Refrigerators for Hotels, Restaurants, Hospitals, Schools, Institutions.

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McCRAY REFRIGERATORS

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The Finest Electric Floor Scrubber and Wax Polisher Ever Built

with Hild's **New Momentary Switch** which automatically stops the operation of the machine—the most important Convenience and Safety yet offered to the users of Electric Floor Scrubbing, Waxing and Polishing Machines.

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Above is a photograph of a schoolroom . . . You may not recognize it as a schoolroom because of the old-fashioned floor.

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The floor is covered with W. & J. Sloane Linoleum . . . Notice how *even* this floor is.

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W. & J. SLOANE *LINOLEUM*

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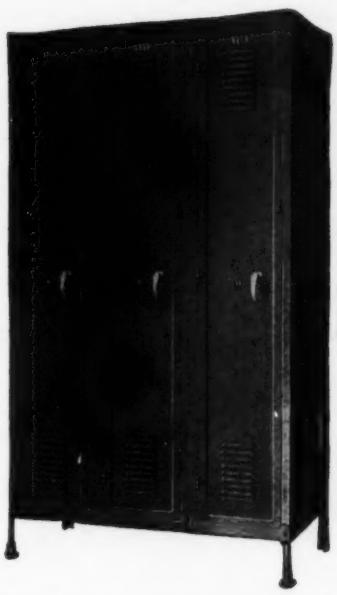

MEDART lockers possess that fine balance between rigidity and flexibility which insures durability under all conditions of use—and abuse. A welded frame made rigid to assure a door-opening always true and square; a reinforced door, yet flexible enough to withstand deflection without becoming permanently bent.

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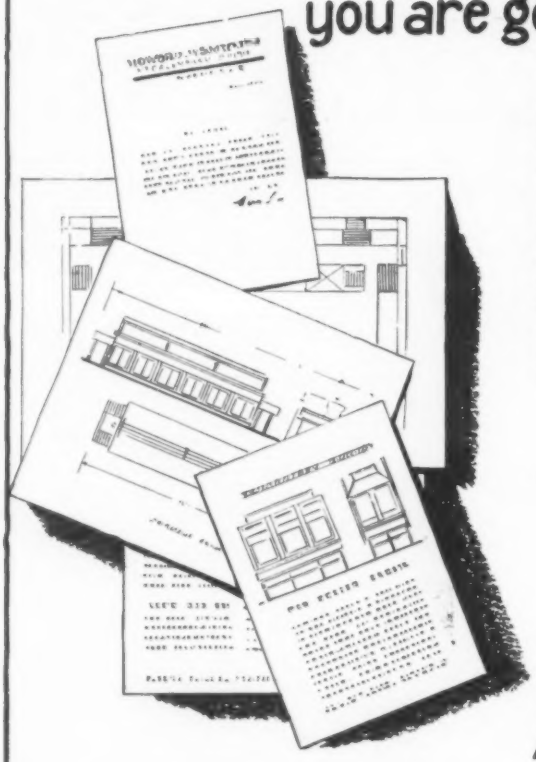

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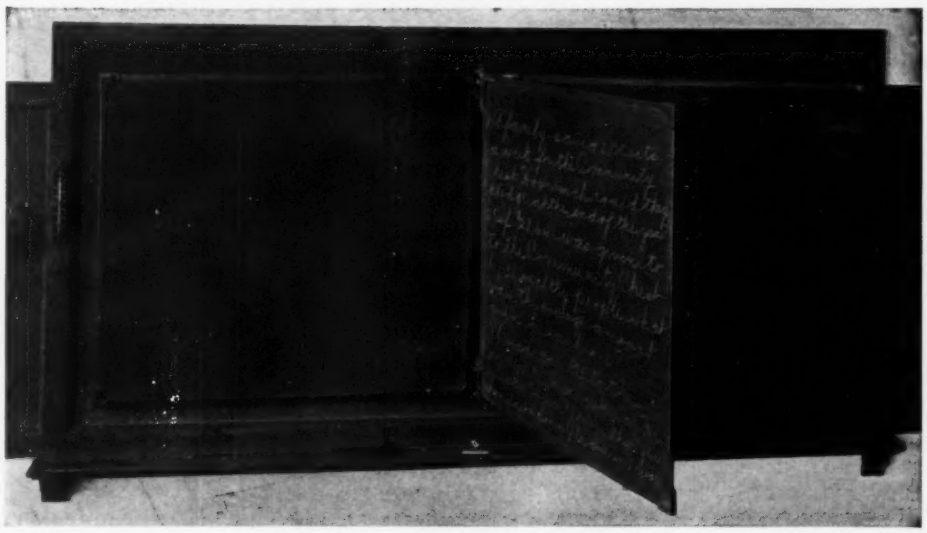

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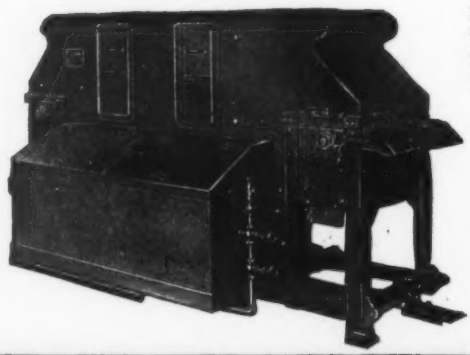

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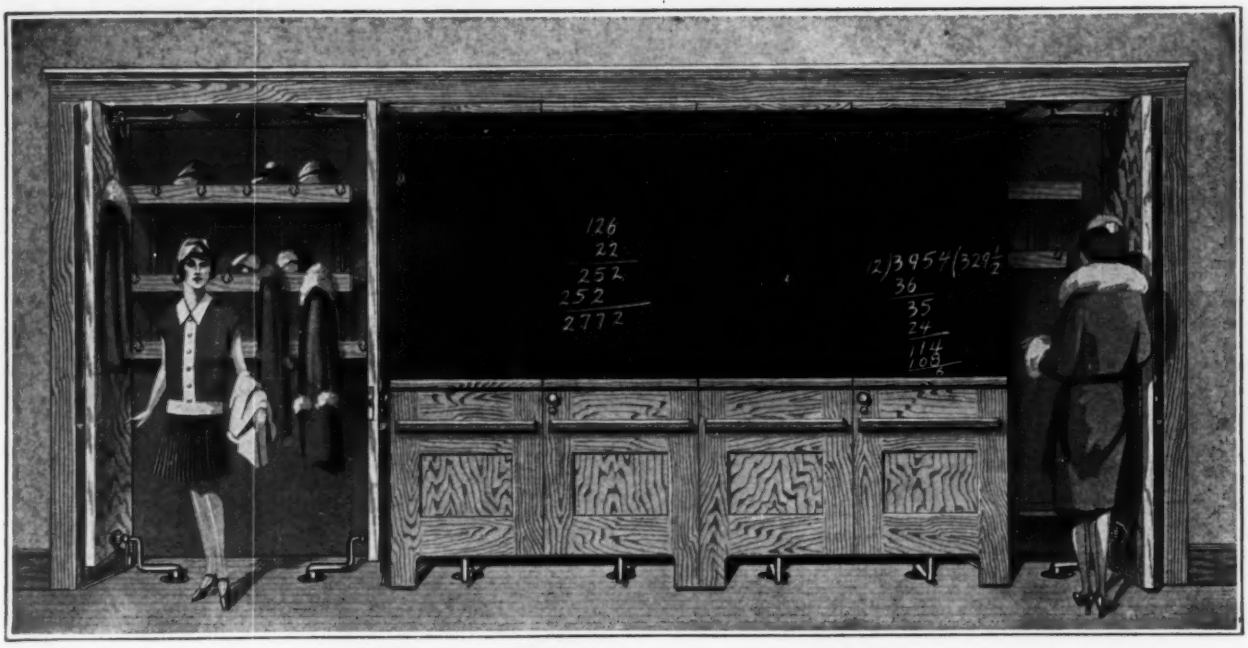

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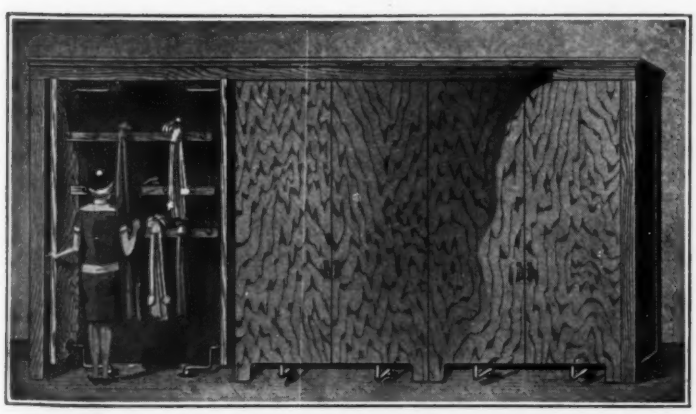

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There are certain things that a projector must do superlatively well in order to qualify fully as a suitable classroom aid . . . certain inherent values that it must possess . . . and all of these qualifications may be found only in the VICTOR Master Projector.

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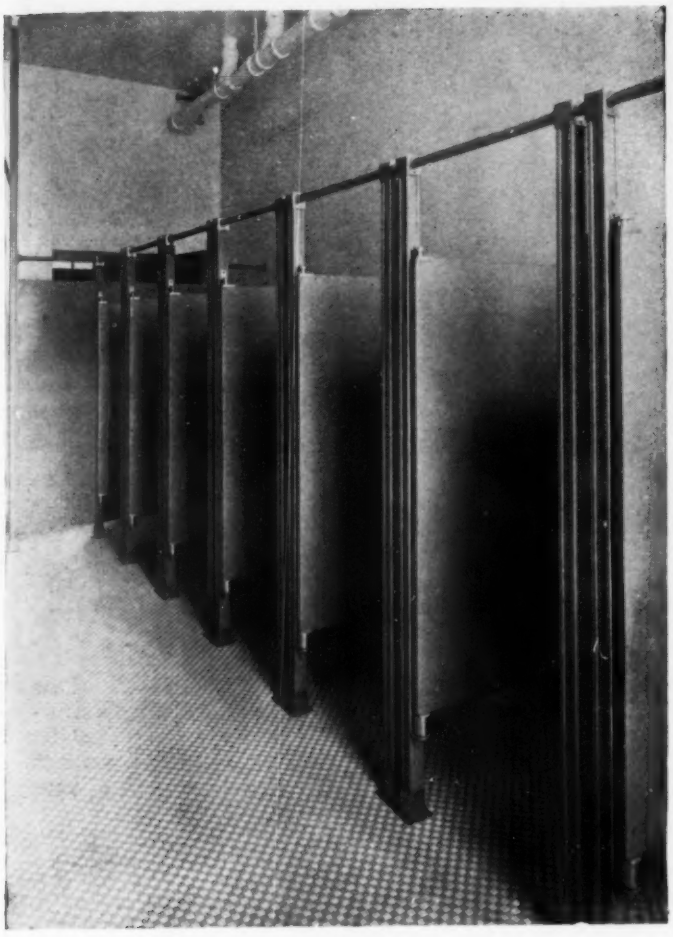
FOR ACID SERVICE



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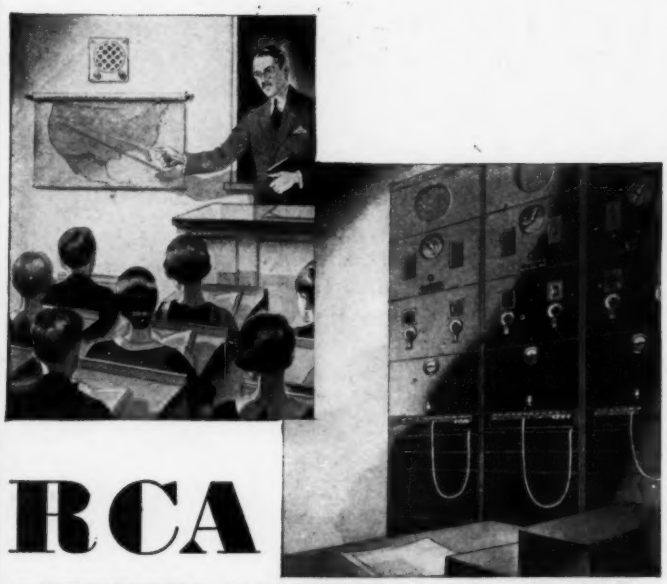

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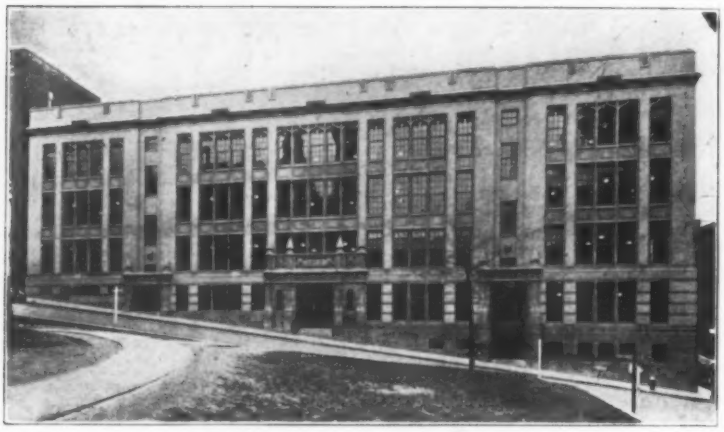

High School of Commerce, Worcester, Mass.
Arch., Geo. Halcott, Worcester, Mass.

Showing Flushwood Door in High School of Commerce, Worcester, Mass.

Townsend School, Milwaukee, Wis.
Arch., Milwaukee School Board

Above: Showing Flushwood Doors in Townsend School. To right: Flushwood Doors in Vieau School, Milwaukee, Wis. Arch., Milwaukee School Board.

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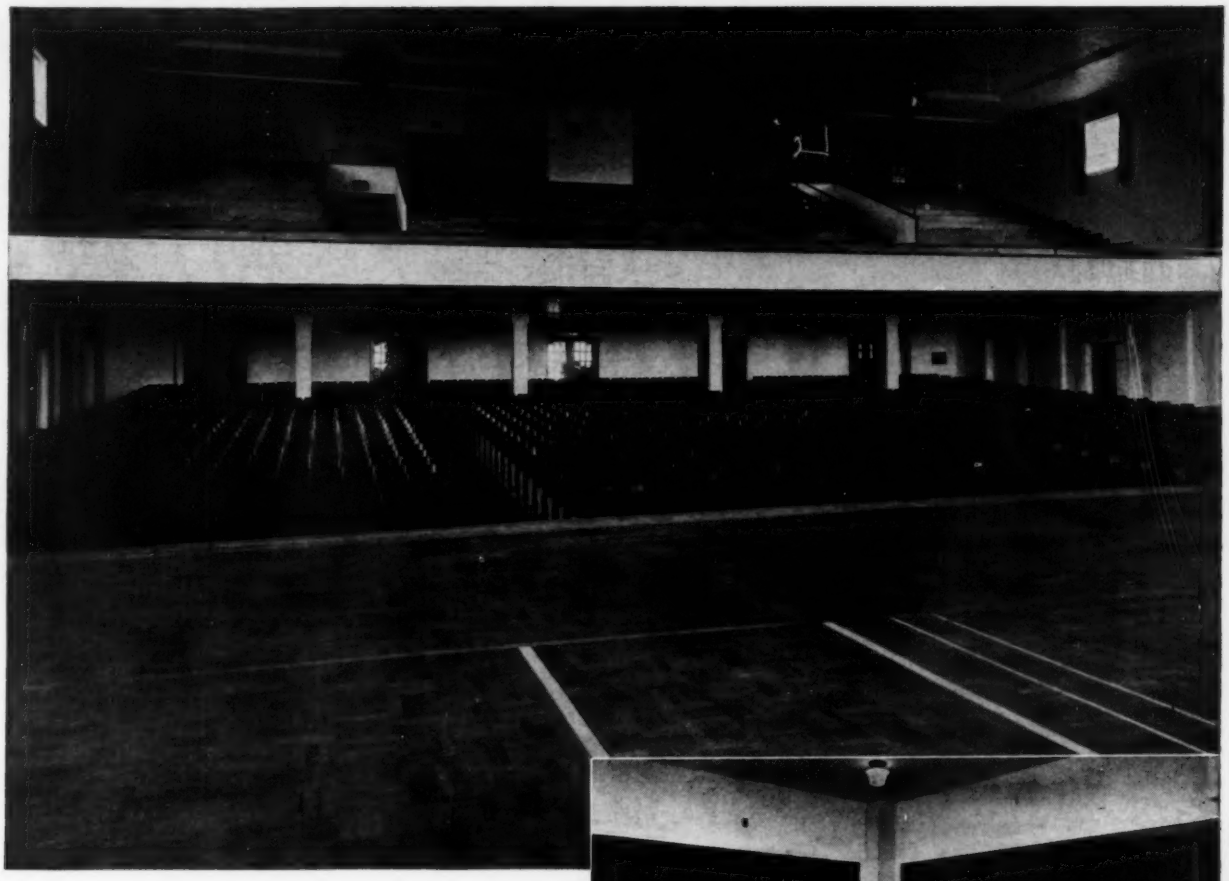

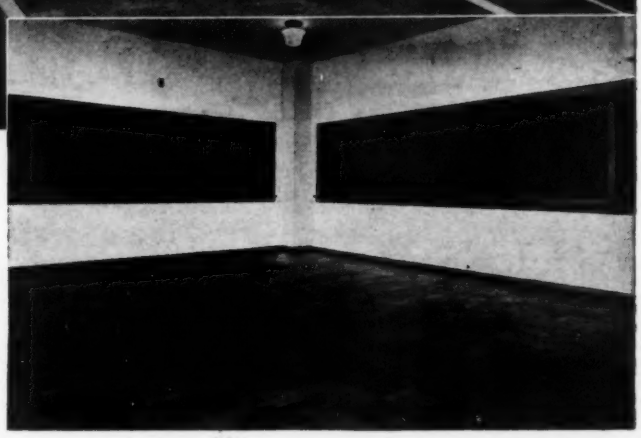

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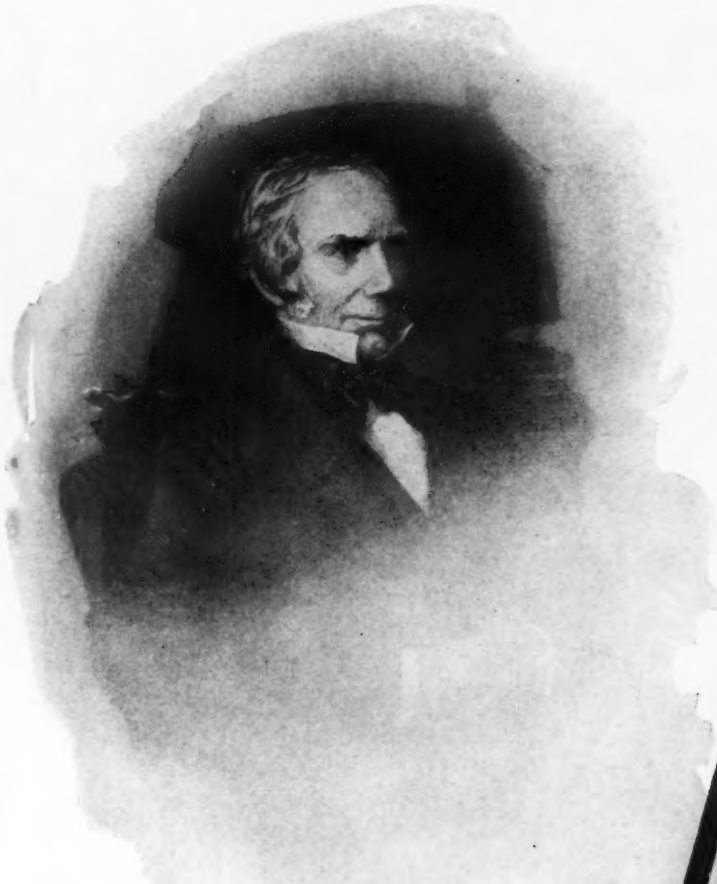

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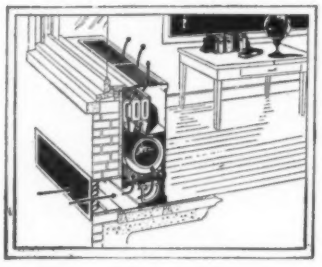

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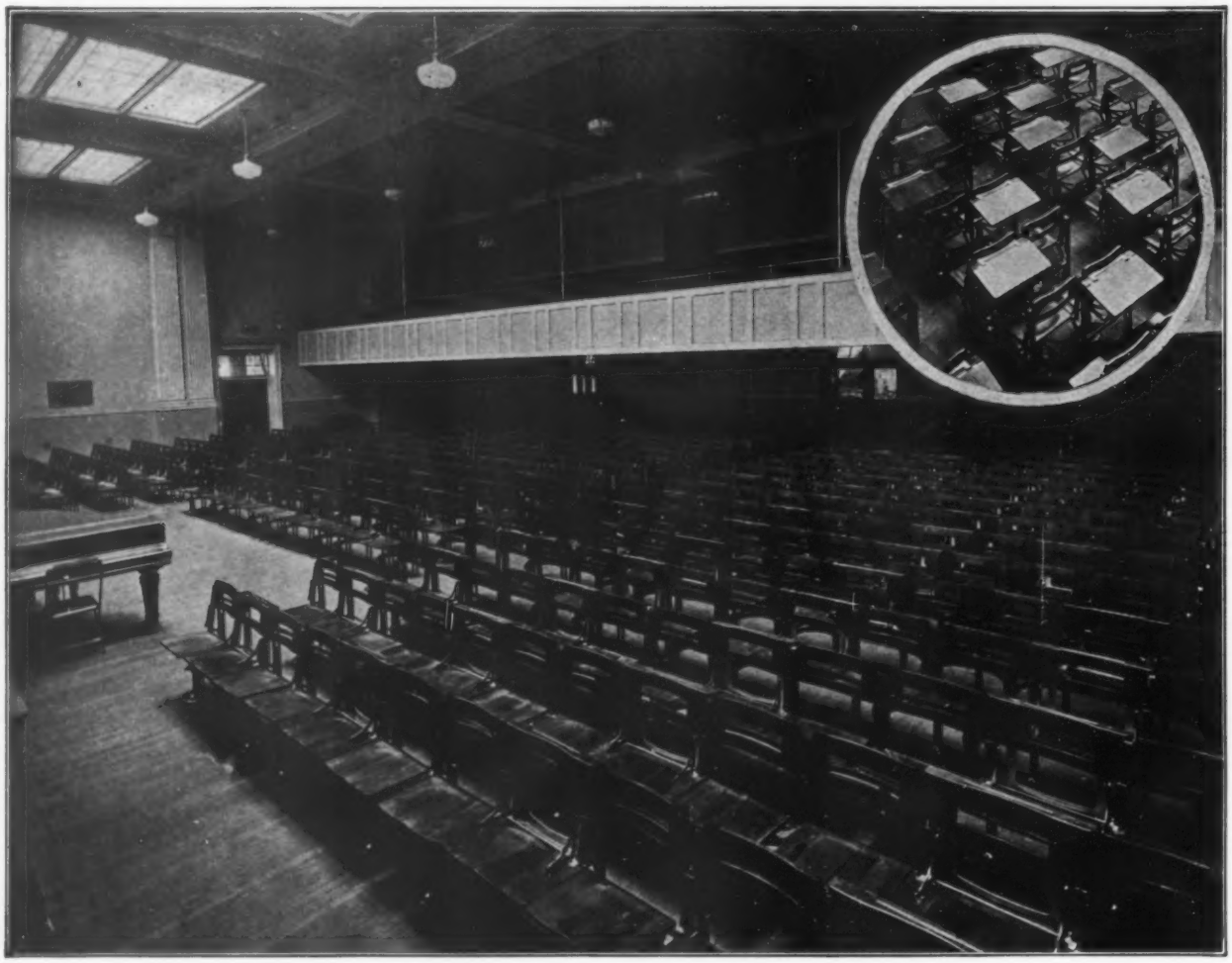

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NATION'S SCHOOLS
DEVOTED TO THE APPLICATION OF RESEARCH TO
THE BUILDING, EQUIPMENT AND ADMINISTRATION OF SCHOOLS

VOLUME V FEBRUARY, 1930 NUMBER 2

The March of Education: Retrospect and Prospect

The evolution of our present educational ideals, objectives and procedures is here traced and its significance in relation to the tasks that confront educators is indicated

By M. V. O'SHEA, University of Wisconsin, Editor in Chief, The Nation's Schools

SUPERINTENDENT CODY'S reminiscences in the December issue of The NATION'S SCHOOLS hint at the direction and speed of our educational advance during the past three or four decades. His remarks have prompted many of us to reflect further regarding the aims and the intellectual and sociological forces that have been and are now determining and will continue to determine our educational objectives and procedures.

Undoubtedly most readers, like Superintendent Cody, can readily recall the day when our ideals and practices in the schools were very different from what they are to-day. How did we happen to break away from the older programs? Memory carries us back three or four decades to the time when Professor James of Harvard was captivating everyone—psychologists, educationists and laymen alike—with new points of view and a new technique in investigating human nature. He was a naturalist and regarded the human mind objectively. He put aside preconceptions regarding mental processes and observed how a human being actually behaved in a variety of situations. He brought to the study of psychology objective methods such as the botanist uses in studying a plant or the zoologist in studying an animal.

Before his day, psychologists sat behind their desks and evolved a theory of the human mind from certain premises that had been derived from religion, philosophy, or metaphysics. When these psychologists discussed education, they developed pedagogical systems without reference to the actual nature of the child or the youth who was to be educated. But when Professor James' naturalistic method took hold on educationists, as it did very firmly, the *a priori* method of determining what subjects should be taught and when and how they should be presented to the novice was gradually abandoned. Educationists began to take their cue from the child and the youth. They began to observe the way in which the individual responded to the material that was taught him and to the way in which it was offered to him. They took note of the effect upon his behavior and his skill in solving the problems that he encountered in daily life and the way in which he attempted to meet them. Inevitably this mode of attacking problems of educational values and methods led to a revolution in the selection of materials to be taught and in the manner of presenting them.

While William James was winning people to the new psychology, President G. Stanley Hall of Clark University was developing a new conception of child nature. For the most part, children had been regarded as miniature men and women and they were being treated as though they possessed in embryo all the traits, faculties, interests, tendencies and powers of self-control of

adults. President Hall, a thoroughgoing evolutionist, was fascinating people with his portrayal of the child as more nearly like his original than his immediate ancestors. Men and women flocked to Clark University and became enamored of the new conception of child nature. They cooperated with President Hall in piling up mountains of concrete data showing that the child is in every essential respect different from the adult and that in his education he must be dealt with as a child and not as an adult. Some revolutionary educational principles were announced by President Hall and his views were accepted with extraordinary readiness and intensity.

Spreading the New Gospel

While Professor James and President Hall and their many disciples were spreading the new gospel concerning human nature and especially child nature, Colonel Francis W. Parker was going up and down the country exhorting the people to learn from the child how he should be taught and not to be guided by adult interests, needs and methods of learning. Colonel Parker began his crusade in Quincy, Mass., but his doctrines were received with such disfavor that he transferred his seat of operations to the Chicago Normal School, now the Chicago Teachers' College. There he gathered about him a faculty, each member of which became an emissary for the new view—that courses of study and methods of teaching and discipline should be determined by the child's nature and interests and not by adult logic. Colonel Parker went himself and sent his co-workers into every community in every state in order that they might disseminate the new gospel.

There was a fourth luminary in the educational heavens who was attacking traditional secondary and higher education while James, Hall, and Parker were awakening our people to a natural, objective way of regarding child nature and education. Charles W. Eliot, president of Harvard, was showing that practically all of secondary education and much of higher education was going wide of the mark. He called upon those responsible for the programs of secondary schools and colleges to abandon the notion that mere formal study in languages or mathematics or any other field was educationally valuable. Like Parker and Hall and James, he went up and down the country saying that we needed a new conception of culture and a new dispensation in respect to high school and college training, that we should recognize the fact that young persons have different interests, abilities and needs and should not all be put through the same régime on the theory that what is best for one is best for all.

This great quartet of educational pioneers opened the way for the development of our present educational ideals, objectives and procedures. About three decades ago, there was inaugurated what might be called the biologic or naturalistic era in education. In 1899, Professor Dewey's "School and Society" appeared. This presented a picture of a school in which children actually lived, doing the things that appealed to them at the time. The slogan of American education—"School Is Life and Not Merely a Preparation for Life"—was given a tremendous impetus by Dewey's convincing exposition of a school in which children were living instead of simply learning about life.

In 1903, I published "Education as Adjustment," which presented in detail the view that education should assist the child and the youth to solve the problems of adaptation to the environing world—physical, social, esthetic and intellectual. This biological view was implicit in the teachings of the pioneers but it became explicit as the fundamental guiding aim in "Education as Adjustment." This book was followed soon by my "Dynamic Factors in Education," which worked out elaborately the psychological conception that a novice can learn only by doing and not by mere memorizing. This book gave impetus to the view that a school must be organized and conducted so that pupils can be active in the actual accomplishment of whatever they are expected to learn. In 1905, Professor Bagley published his "The Educative Process," which put all the new conceptions of child nature and education into a form that made a compelling appeal.

Formal Discipline Assailed

And so the new education was launched, and nothing could stop it. Hundreds of men and women set to work eagerly to attack the multitude of problems that had to be solved by objective technique. They could not have solved them by sitting behind a desk and speculating about them. The most important task of the investigators was to give the deathblow to the doctrine of formal discipline that had played the leading rôle in determining educational programs before 1900 in this country and throughout the world. Professor Thorndike led in the attack on this superstition and in due course he and an army of coworkers convinced the leaders in the educational camp that the human mind is so constituted that particular experience or study of a particular kind develops ability of a particular and not of a general sort. It was a mistake, then, to build an educational program with a view to sharpening the mental faculties without regard to the charac-

ter of the material employed or the situations in which the young would be placed.

It was a long struggle—and it is still continuing in some quarters, especially in secondary and higher education—to establish the principle that what is studied in school determines what a pupil can do outside of school in a special and not in a general way. The idea has taken effect at last and has led to the great winnowing processes that are still going on and that are bound to continue until topics in arithmetic, words in spelling, constructions in grammar, names and dates in history, names and boundaries in geography, that do not illumine the world in which a pupil must live and the mastery of which does not confer skill in solving the problems that the individual must confront, will be cast out of the elementary and secondary schools and the colleges.

Testing the Curriculum

The greatest conflict now is taking place in the colleges, though there is some resistance in the secondary schools from those who have not yet been able to accept the view that mental powers and skills are for the most part specific in character and cannot be acquired by general disciplinary study. There still adhere to the curriculum in every department of education some materials that have continued from the days of universal belief in formal discipline, but everywhere men and women are at work testing out these materials with a view to discarding them unless it can be shown that they will actually function in the lives of pupils. Prof. Franklin Bobbitt, University of Chicago, in an article in the January, 1929, issue of The NATION'S SCHOOLS, predicted that during the next few years the curriculum in every department of American education would be reconstructed.

It was said above that the high school and the college have to some extent been resisting the influences that are at work reconstructing the program of the American school in respect to the curriculum, the methods of instruction and school government. It should not be inferred, however, that high schools and colleges are wholly unresponsive to the reconstructive movement. I attempted recently to list the subjects taught in a typical state university. Before President Eliot began his crusade to have high schools and colleges liberalize their courses of study, the subjects taught in colleges and universities were limited quite largely to mathematics, ancient and modern foreign languages, ancient history and formal science. To-day all curricula have become so diversified in higher institutions that the subjects taught run up into the hundreds. In some high schools upwards of 250 different subjects are taught, whereas when the reconstructive era began not more than twenty-five subjects at the outside were presented in any of the secondary schools and in most of them there were only nine or ten subjects.

The shifting of emphasis on subjects that has taken place is significant. During the last six or seven years according to data secured by the United States Office of Education, English has been gaining ground in the secondary schools, while all foreign languages have been losing ground. American history has been gaining, while foreign history of every kind has been losing. Social studies are gaining at the expense of algebra and geometry. General mathematics, in which the more functional parts of algebra and geometry are included, is making headway. Biology, sanitation and hygiene are pushing ahead, while physics, physical geography, botany and zoology as separate subjects are receding. Home economics is gaining, while bookkeeping is losing. Physical education is pushing ahead more rapidly than any other subject.

Not only is a change taking place in respect to the subjects that are gaining and those that are receding, but a still more marked change is in progress in respect to the methods of instruction in secondary schools. Three or four decades ago, the study of English consisted in the reading of a few classics for the purpose principally of grammatical analysis and the memorization of rules of rhetoric. Now in secondary schools English instructors stress oral and written composition and extensive reading. Formerly pupils were required to learn to spell a long list of technical terms which they never used; now they learn not more than 2,500 words and stress is laid on the 1,500 words that carry almost the entire burden of written language. In an earlier day pupils learned definitions concerning the Constitution and memorized the contents of textbooks in the field of civics. To-day they study the actual government in the communities in which they live and they organize their schools and participate in their management, much as they will or should participate in the government of their communities.

Relating Learning to Reality

So in every subject mere formal learning is being or has already been abandoned and dynamic instruction has taken its place, the aim being to give the pupil as nearly as possible the kind of experience that will enable him to adjust himself to his physical, social, intellectual and esthetic environments. It is not intended to say, of course, that the ideal of dynamic education has yet been

achieved. It has not been, but we are on the way, and nothing can stop us now.

The most distinctive characteristic of American education in the present era is its objectivity. We are fast losing faith in the validity of educational values or procedures obtained subjectively. The emphasis being placed upon educational measurement in America is amazing the world. I was recently called into conference with an educational commission from a European country that has been studying American schools and colleges. The members of this commission said when they grasped the extent and import of the movement to subject all the work in American schools to the measurement process: "You are robbing your educational work of its spiritual character. You are making everything mathematical. You are trying to measure values and processes that never can be measured without robbing them of their most precious qualities. You are standardizing everything with the result that you may lose much of what is really of essential value in education."

Can Educational Values Be Measured?

This is the way the measurement program that is being extended every year in American education impresses some observers from foreign countries. Whether we are right or wrong we are certainly plunging ahead with our measurement program. Most of us believe that whatever has any substantial worth in education can be and ought to be measured in some way so as to determine how it functions and whether attainment in particular instances is up to the standard. We are pushing ahead on the plan of grouping and promoting pupils according to their abilities and their mental age, as determined by intelligence measurements. We are determined to find out if possible by accurate measurement whether various methods of instruction yield the results that are claimed for them. We are devising techniques for measuring the outcomes in thought and behavior of instruction in various topics that are now included in the curriculum or that are appealing for admission thereto. Some are not at all convinced that this vast activity in and tremendous enthusiasm for intellectual and educational measurement are leading us in the right direction, but we are going forward, the majority of us believing confidently that the spiritual values of education will not suffer harm from the effort to replace guesswork by precision.

It is extraordinarily significant that the wide-awake countries of the Old World are appropriating most of the fundamental principles underlying the reconstructive work that is going on in American education. During the past ten years, commissions from European and Oriental countries have been scouting around America, and most of them have gone home determined to reconstruct their own educational programs. Already reports are coming from England, Germany, Russia, Italy, Japan, China and even Spain, showing that the conventional, traditional, disciplinary, educational work in these countries is scheduled for destruction, and the work of annihilation is going on swiftly.

These countries have taken their cue from us, but some of them are apparently pushing ahead of us in certain respects. The feature of our program that has appealed most strongly to these countries is our emphasis upon activity as contrasted with mere static learning. In five years some of these countries have gone farther than we have gone in three decades in devising ways and means of helping pupils actually to learn by doing rather than by memorizing. Groups of students from several of the leading European countries have been studying American educational work during the past year. They are saying that in some of the schools they have visited the activity program seems to be forced and artificial rather than natural and effective. They say, "We have already learned how to have our pupils actually perform their arithmetic and geography and all manual arts, whereas your pupils merely play at doing these things." It may be that soon we shall have to go to England or Germany or Japan to observe how our dynamic ideal in teaching can be most efficiently realized. For the past decade or more, the peoples of the world have been coming to us for educational guidance but our fundamental objectives and methods have made such an impression upon them in some places that they are apparently able to embody them in actual practice more successfully than we are.

What Is Holding Us Back?

One reason for our inability to go forward in our reconstructive work as effectively as some of the older countries are doing is that we must take care of all the children of the nation from five to fourteen and in some places eighteen years of age, with a constantly lengthening educational period. Here is the problem that is perplexing American educational leaders—how to make all instruction vital and dynamic and how to care for each individual according to his endowments and his needs in our system of compulsory, free education, which sends into the schools a great army of young persons possessing widely different abilities and living under widely different economic and sociological conditions.

America Is Reorganizing Her Schools

The aim of the new curriculum is to make an adjustment between the requirements of the present highly complex social environment and the needs of child development

By GERTRUDE HARTMAN, Editor, *Progressive Education*, New York City

WE ARE living in a period of stupendous changes. In the space of a few years the application of science to industry has produced an expansion such as has never been known in the history of the world. Inventions have followed one another with such rapidity that almost within the memory of those now living our whole economic and social life has undergone a complete transformation.

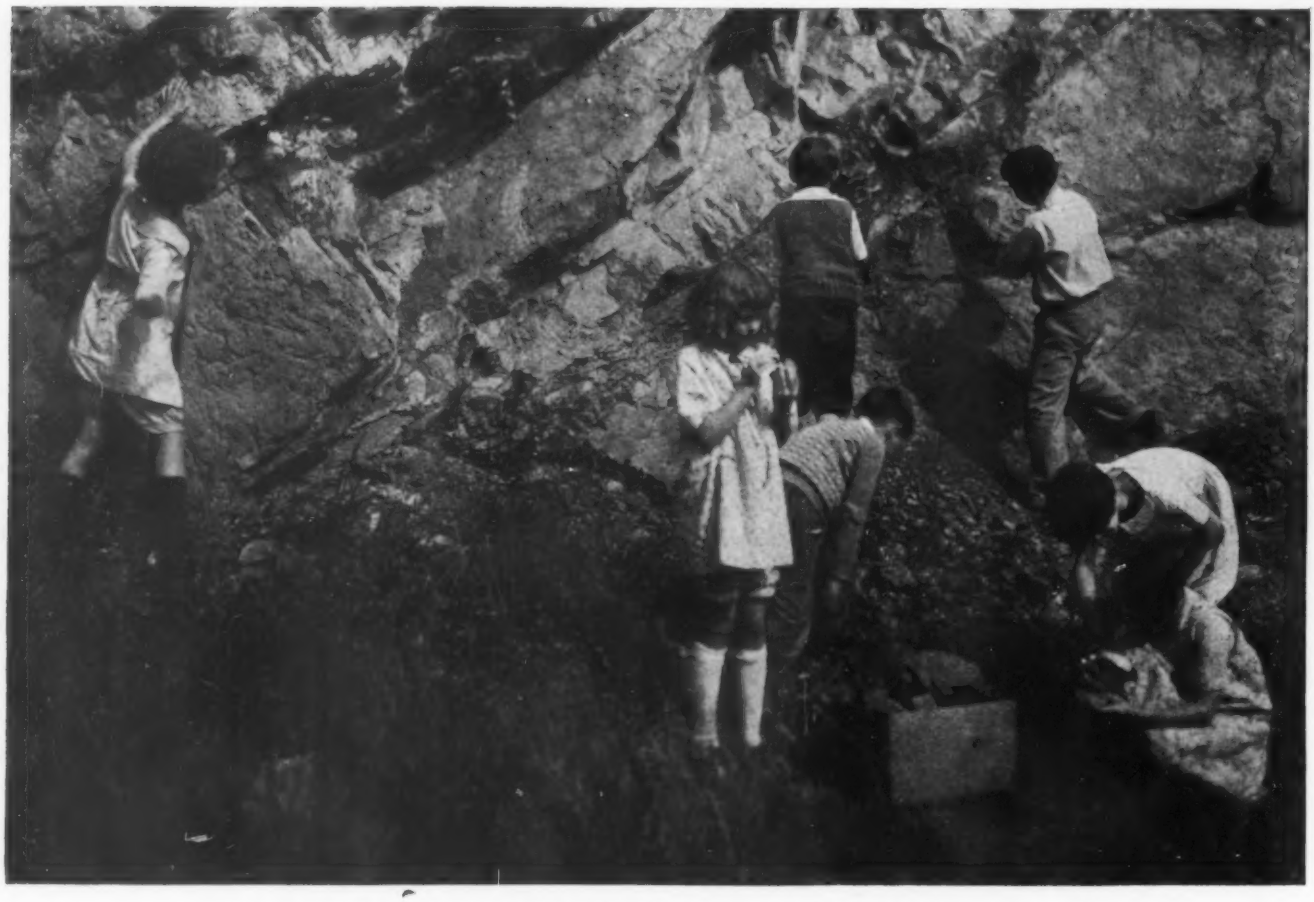
Transportation facilities and devices for communication have been so perfected that what would have been regarded as miracles a comparatively short time ago are now matters of every-day occurrence. As a result of the workings of these mighty forces of the industrial revolution, a new world confronts us with a host of new conditions and problems to be met.

Such fundamental changes in social life demand correspondingly great changes in education. In the simpler social régime prevailing previous to the present industrial era education was comparatively simple because the needs of life were simple. Social life centered about the life of the family and the neighborhood. The ordinary life of the home and the community played an important part as a definite educative agent in preparing children for the lives they were to lead. Knowledge came largely from the day's needs and the day's work. The three R's curriculum supplemented this life knowledge with a certain valuable minimum of more formal learning.

Then came the great change in social conditions. In an effort to meet rapidly expanding needs schools increased in number and size, and bit by bit the curriculum was changed. Even under the best circumstances, however, the old curriculum was an inherited system, built up largely by a process of accretion, providing only verbal, secondhand experiences and neglecting the essential psychologic factor of how children learn. The product of other days and other ways, it was incapable of making an adjustment between the requirements of a highly complex social environment on the one hand and the needs of child development on the other.

Art work from the Bronxville, N. Y., schools shows how the children express themselves in plastic materials.

The great social changes of the last century have created problems for twentieth century



Nature is studied in its own setting by children from a Los Angeles public school.

education. Other changes, equally fundamental, offer help in the solution of these problems. The nineteenth century was noted for the advance in the science of life—biology, psychology and sociology. This new knowledge has entirely changed our conception of the nature and needs of childhood and is having a profound influence upon education. It has produced a revolution in educational thinking as great, Doctor Dewey has remarked, as that "introduced by Copernicus when the astronomical center shifted from the earth to the sun. In this case the child becomes the sun about which the appliances of education revolve; he is the center about which they are organized." This means a complete right-about face in education. The child, a reacting organism with needs to be met, is the center of the new educational order.

There is now a wealth of theory abroad regarding modern educational methods. The important and difficult problem at the present time consists in translating this theory into terms of actual school procedure. Schools at present are in the midst of a great transition movement. Traditional education had built up a whole educational machinery in conformity with its aims and purposes. Modern students of education realize that if the new philosophy of education is to function, mass teaching, the recitation, simultaneous promotions, extraneous rewards—in fact, all the machinery that is the operating expression of the old régime —must be replaced by a new technique more in harmony with the modern point of view.

North, south, east and west, creative and constructive educators are at work on this problem, seeking to reorganize the schools of the nation so that they may be more adequate vehicles for the development of children in this modern world. A

This upper grade room has an attractive homelike atmosphere.

new curriculum is being evolved, broad enough to meet the needs of all children and flexible enough to further the interests of the individual child. The school is striving to place children in real situations, to promote purposeful work and intelligent thinking, using its curriculum of school subjects and other resources at its command as the means of accomplishing these results.

Another principle upon which the new concept of education rests is that man is by nature a social being and that one of the fundamental tasks of education is to give the child opportunity for the development of his personality through free contact with his fellows. Modern psychology has made it clear that we cannot develop traits of personality except through experiences that habitually call into play the particular qualities we wish to develop. If the child is some day to become a responsible unit in a great community, the world, he can best be fitted for this responsibility by playing his part as a child in a smaller community in which he can function. A child learns through experiences; he learns to be social through shared experiences. The richest social experience a school can provide is one in which groups of children are actively engaged upon enterprises of common interest. When children habitually cooperate in work and play projects, social discipline enters into the very heart of learning.

How are these principles being carried out in the classroom? It is the purpose of this paper to show, largely by pictures with some descriptive comment, some of the aspects of the new elementary school curriculum at work.

In a modern schoolroom, probably one of the

first things that impresses us is the changed appearance of the room itself. If children learn through activity, ample space for their activities is, of course, the first essential. The cumbersome desks screwed down in geometric formation have therefore been taken out and more flexible seating arrangements have been substituted. Materials for the enrichment of the curriculum are in evidence. An atmosphere of happy informality pervades the room, making it a place where varied forms of work and play may be carried on.

We are now fairly used to seeing the new setting in the kindergarten and in the first and second grades, but in many schools, from the third grade on, when the demands of subject matter become more pressing, the old formal arrangement still persists. If the principle involved is valid, however, the same informal flexible arrangement should prevail throughout the school. All the grades must be free to work out activities suited to the pupils' age development.

How to Arrange the Schoolroom

The eighth grade room at Milwaukee State Teachers College offers a valuable suggestion for the arrangement of upper grade classrooms. When the teacher first began her work, set desks prevented the carrying out of many enterprises, and there was no money to buy new furniture. This situation was turned to good educational account. The pupils made the furnishings and selected books and other equipment, converting the unattractive classroom into a comfortable homelike place.

The arrangement of tables and desks makes the conduct of group discussions easy. The pupils carry on individual and group investigations and then pool their information and organize it through class discussions. A concrete account of the way the work is conducted will be found in "An Activity Program for the Early Adolescent," by Josephine Maloney, in *Progressive Education*, May, 1929.

Linking Learning With Life

Children are no longer expected to learn simply by reading books. Book knowledge is being supplanted, whenever possible, by information gathered from first-hand sources. Trips of investigation are therefore assuming great importance in the development of the new curriculum. In the public schools of Newark, Del., geography is made real to the children through visits to the local industries. The first-hand investigation of environment leads also to a better understanding of nature and science, a field in which trips form an important part.

The reproduction of objects that they have seen has proved another valuable method of making things real to the children. In Pennsylvania, where coal mining is an important industry, the children in one school constructed a coal mine that

Commander Byrd's base in Little America has been reproduced by third grade pupils in Norfolk, Va.

In this well equipped kindergarten room the children learn through activity.

actually ran by electricity. Their work included much investigation of the subject of mines and mining and visits to a real mine in operation.

The teaching of history to-day does not cover merely "old, forgotten, far-off events." History has become a dynamic subject. Discussion of current events forms an important part of the school program and offers opportunities for valuable teaching. Lindbergh's flight led many children into an investigation of man's attempts to fly; the record run of the *Bremen* was seen as the latest link in the story of man's conquest of the sea. When the ships that were to carry supplies for Byrd's South Pole expedition were being loaded at the naval base at Norfolk, Va., a number of third grade children came to school one day greatly excited over the Eskimo dogs that were going on the trip. This was the natural starting point for a valuable study of polar exploration, carried on for several weeks, which unified practically the whole curriculum of the grade.

The past is often re-created through dramatic representation. As an example of this, the children of the fourth grade in the public schools of Winnetka, Ill., who had been studying Egypt, made the scenery for an Egyptian play which they were to present.

In its philosophy of expression as the key to development the new education has found great resources in the arts, and a wide range of art experiences are being provided in the new curriculum. Pupils are given the opportunity to create with words and with colors, to express themselves through the medium of song and dance, and to shape their ideas in plastic materials such as clay and wood. All of this work is made an integral part of the vital living experiences of the children.

The forces of evolution have brought to the educational field stupendous and well-nigh baffling problems. That these are being met, however, there is no doubt. The future will show a great expansion of the work already undertaken and education will gradually take its rightful place as the foundation stone of the great social world.

U. S. to Educate Children Living in Isolated Communities

The Office of Education is now preparing lessons for the education of children of families living in isolation and unable to attend regularly established schools. This new service is based on the observation of successful experiments of the same nature as those carried on in Canada and Australia. Only citizens recommended by the superintendent of public instruction may enroll.

Inexperienced Teachers Who Fail —and Why

A knowledge of the difficulties that most frequently confront young teachers might well form the basis of a supervisory program that will help to smooth the teaching way

By A. S. BARR and MABEL RUDISILL, Department of Education, University of Wisconsin

MOST teachers who fail do so during the first year of teaching. As a matter of fact, many teachers fail during their first two weeks of teaching. The principal is busy with the various duties incident to the opening of the school year, and when he has time to turn his attention to supervision he finds many of his beginning teachers irreparably lost.

The transition period from university life to teaching is a trying one. A knowledge of the difficulties that most frequently present themselves to beginning teachers might well constitute the basis for the supervisory programs with reference to such teachers. Incidentally, this information might be of value as a guide in the institutional training of teachers, supplying as it does a cue to the kinds of difficulties teachers will meet in their early teaching experience.

This study is the result of an investigation that was undertaken as a part of the follow-up program of the supervisory service bureau of the University of Wisconsin. It is based upon the difficulties met by graduates of the University of Wisconsin during their first and second years of teaching. The primary problem in this investigation was to discover the difficulties that actually give beginning teachers most concern. The data for the study were obtained from a questionnaire sent to graduates of the classes of 1927 and 1928. Statements of difficulties were obtained from teachers at three different periods of experience, including difficulties met during the first two weeks of teaching, those that continued throughout the first year and those that continued in the second year of teaching experience. A general statement of the difficulties of beginning teachers was also secured from principals.

Particular care was taken in arranging and classifying the lists of difficulties secured. A sep-

TABLE I—PERCENTAGES OF DIFFICULTIES AS MENTIONED BY ALL GROUPS

Difficulty	*Per Cent*
Control over pupils	38.3
Provision for individual differences	33.4
Presentation of subject matter	32.5
Motivation	31.7
Organization of work and teaching materials	23.0
Conditions for work	17.5
Measuring achievement	15.7
Teacher and pupil participation in the recitation	15.2
Making assignments	14.3
Adjustment by teacher to classroom situation	11.5
Teacher's preparation for teaching	8.7
Personal characteristics of teacher	8.3
Standards: how much to expect of pupils	7.5
Teaching pupils how to study	7.2
The handling of routine	5.2
Classroom procedure	4.0
Lesson planning	4.0
Appreciating importance of pupils	4.0
Administrative details	3.2
Teacher's relation to the school and to the community	3.2
Relations with supervisors	1.5
Objectives of teaching	1.2
Use of instructional materials	1.2

TABLE II—DIFFICULTIES MENTIONED FREQUENTLY BY THE TEACHER DURING FIRST TWO WEEKS

Difficulty	*First Two Weeks Per Cent*	*Continuing First Year Per Cent*	*Second Year Per Cent*
Adjustment by teacher	29.2	0.8	no mention
Standards of work	10.1	2.6	no mention
Lesson planning	9.4	1.7	no mention
Administrative details	8.8	no mention	no mention
Classroom procedure	6.1	0.8	no mention

arate tabulation was made for the difficulties listed at each period of teaching experience, and for those listed by principals. The classification was made as objective as possible. The following procedure was used: Each statement of difficulty was recorded separately; statements that were identical were brought together under the same heading; these identical statements were placed with other statements relating to the same type of difficulty, the absolute agreement of three persons as to the placement of these difficulties being required for each judgment; frequencies and percentages for the various difficulties were calculated.

The original study includes a list of the specific and classified difficulties for each of the following groups: (1) difficulties of the first two weeks of teaching for 83 graduates of the class of 1927 and 37 graduates of the class of 1928—148 graduates for the two years combined; (2) continued difficulties for the first year of teaching for 83 graduates of 1927 and 37 graduates of 1928—120 graduates for the two years combined; (3) second year difficulties for 43 graduates; (4) the difficulties of beginning teachers as noted by 88 school principals.

The difficulties reported by graduates of 1927 and of 1928 during their first year of teaching were carefully compared to determine the reliability of these data. The results from the two groups agreed closely, that is, the same difficulties were named by a similar proportion of the teachers of these two groups. The assignment, for example, was named by 19.3 per cent of the graduates of 1927 and by 18.5 per cent of the graduates of 1928 as a difficulty occurring during the first two weeks of teaching. It was named by 6 per cent of the graduates of 1927 and by 8.1 per cent of the graduates of 1928 as a difficulty that continued during the first year of teaching. The similarity between the reports of the two classes on the great majority of items listed indicates that the difficulties found in this study are those that might reasonably be expected to occur in the teaching of beginning teachers.

The difficulties revealed in this study are, of course, merely the felt difficulties of teachers. They may or may not represent their actual diffi-

TABLE III—DIFFICULTIES THAT DECREASED AS TEACHING EXPERIENCE INCREASED

Difficulty	*First Two Weeks Per Cent*	*Continuing First Year Per Cent*	*Second Year Per Cent*
Control over pupils	40.5	32.5	16.6
Presenting subject matter	37.2	17.5	23.3
Measuring achievement	20.9	18.3	2.3
The assignment	19.0	6.7	9.3
Teacher and pupil participation	16.2	7.5	2.3
Teacher preparation	6.8	7.5	2.3

TABLE IV—DIFFICULTIES THAT DECREASED LITTLE DURING THE TWO-YEAR PERIOD

Difficulty	*First Two Weeks Per Cent*	*Continuing First Year Per Cent*	*Second Year Per Cent*
Motivation	36.5	39.2	25.6
Conditions for work	27.7	20.0	20.9
Organization of work and materials	27.0	19.2	25.6
Teaching pupils how to study	11.5	6.7	11.6

culties. They are, however, those the teachers themselves considered important.

The grouped difficulties, classified according to certain major divisions, are presented in Table I. The percentages are based upon the combined totals for all groups.

A study of these data indicates that control over pupils is a factor of much importance. An examination of the reports of all groups showed that this item of difficulty was frequently mentioned by teachers at all periods of experience and by principals in their general statements. Included under this heading were such specific difficulties as general discipline, discipline in large classes, discipline with junior high school boys, proper relations between teacher and pupils, lack of control, creating the proper attitude on the part of pupils, distinction between freedom and disorder, handling problem cases and methods of punishment. Of these specific difficulties, discipline was mentioned most frequently. Twenty-two and three-tenths per cent of the teachers listed discipline as a difficulty met during the first two weeks of teaching; 17.5 per cent listed discipline as a difficulty that continued throughout the first year and 11.6 per cent listed discipline as a difficulty that continued throughout the second year. Twenty-nine and five-tenths per cent of the principals listed discipline, indicating that principals considered it a difficulty of some importance. Proper relations between teachers and pupils were frequently mentioned by teachers as a source of trouble during the first two weeks of teaching, and as continuing throughout the first year. This difficulty was also mentioned by principals. Handling problem cases was mentioned by a small number of teachers in each group.

Individual differences were recognized by both teachers and principals as presenting difficulty. This fact is shown by the high percentage assigned to this item. Some of the specific difficulties included under this heading were: understanding individual pupils, adjusting work to class ability, ability grouping, providing for individuals, use of the contract plan, helping slow pupils and use of the differentiated assignment. The general term, "providing for individual differences," was the most frequently mentioned specific difficulty. Helping slow pupils and the use of the contract plan of teaching appeared among those items most frequently mentioned during the first and second years of teaching. Understanding individual pupils was a difficulty frequently mentioned by second year teachers and by principals.

The presentation of subject matter, which is represented by the third highest percentage of teachers, includes such specific difficulties as: how to present subject matter effectively, special meth-

TABLE V.—PERCENTAGES OF MENTION OF DIFFICULTIES BY TEACHERS AND BY PRINCIPALS

Difficulty	*Teachers*			*Principals*
	First Two Weeks	*Continued First Year*	*Second Year*	
Control over pupils	40.5	32.5	16.6	53.4
Provision for individual differences	29.1	38.3	51.2	25.0
Presentation of subject matter	37.2	17.5	23.3	38.6
Motivation	36.5	39.2	25.6	13.6
Organization of work and materials	27.0	19.2	25.6	20.5
Conditions for work	27.7	20.0	20.9	0.0
Measuring achievement	20.9	18.3	2.3	10.2
Teacher and pupil participation in the recitation	16.2	11.7	9.3	18.2
Making assignments	19.0	6.7	9.3	18.2
Adjustment of teacher to classroom situation	29.1	0.8	2.3	1.1
Teacher's preparation	6.8	7.5	2.3	17.0
Standards: how much to expect of pupils	10.1	2.6	0.0	13.6
Teaching pupils how to study	8.1	6.7	11.6	4.5
The handling of routine	4.7	9.2	4.7	1.1
Classroom procedure	6.1	0.8	0.0	6.8
Lesson planning	9.4	1.7	0.0	0.0
Administrative details	8.8	0.0	0.0	0.0
Personal characteristics of teacher	0.0	0.0	0.0	37.5
Appreciating the importance of pupils	0.0	0.0	0.0	18.2
Teachers' relations to school and community	0.0	0.0	0.0	14.8
Relations with supervisors	2.7	0.8	0.0	1.1
Objectives of teaching	0.7	1.7	2.3	1.1
Use of instructional materials	0.0	0.0	0.0	5.7

ods for teaching different subjects and teaching on the pupils' level. The general term, "presenting subject matter effectively," was among the most frequently mentioned specific difficulties to occur on the different lists. Teaching on the pupils' level was an important difficulty for teachers during the first two weeks of teaching and throughout the first year. This difficulty was also prominent among those listed by principals. The use of lecture methods was frequently mentioned by principals, although it was not mentioned by teachers.

The Problem of Motivation

Motivation is a difficult problem for many teachers, retaining its prominence throughout the two-year teaching period. The specific difficulty, motivating work, was among those most frequently mentioned. Keeping pupils busy also appeared among the specific difficulties mentioned frequently by all groups. Other specific difficulties were: providing interesting material, motivating slow sections and motivating study.

The organization of subject matter for teaching purposes stood fifth in order of frequency. The most frequently mentioned specific difficulties were: organizing courses, organizing work into units, organizing work in relation to time allotment and correlation.

Other difficulties less frequently mentioned were (in order of their frequency): condition of work; measuring achievement; teacher and pupil participation in the recitation; making assignments; adjustment by the teacher to the classroom situation; teacher's preparation; personal characteristics of the teacher; standards of work; teaching pupils how to study; the handling of routine; classroom procedure; lesson planning; appreciating the importance of the pupils; administrative details; teachers' relations to the school and the community; teachers' relations with supervisors; objectives of teaching; use of instructional materials. Some of these difficulties are discussed in other connections in this article. In all cases, the percentages indicating the importance of the difficulties at the different periods of teaching experience are given.

It was found that certain difficulties were important at all periods of teaching experience. Other difficulties that were important at one period of experience were not so at a later period of experience. Yet others decreased in frequency from period to period, indicating that these teachers gradually gained control over these difficulties. Some difficulties held approximately the same relative importance at each of the three periods of experience. Only one difficulty increased in frequency of mention with the increase of teaching experience.

The most important difficulty mentioned during the first few weeks of teaching experience, but seldom mentioned later, was the adjustment of the teacher to classroom conditions. The major items included under this heading were: lack of poise, change from student to teacher and keeping a teacher's point of view. Other difficulties of frequent mention during the first two weeks of teaching were: inadequate knowledge of standards of work (or how much to expect of pupils), various administrative details, lesson planning and classroom procedure. The percentages for the three periods of experience are shown in Table II.

There are a number of difficulties that decreased in frequency with teaching experience. This decrease is taken to mean an increase in control over the situation in question. Difficulties of this nature were: control over pupils, the presentation of subject matter, measuring achievement, the assignment, teacher and pupil participation in the recitation, and teacher preparation. The percentages of mention for the three periods are shown in Table III.

Difficulties that remained fairly constant for the two-year period were: conditions for work, motivation, teaching pupils how to study, and the organization of work and teaching materials. Table IV shows the percentages for the three periods.

Specific Difficulties

The difficulties included under the heading, "conditions for work," deserve consideration by school administrators in particular. Inadequate reference books and materials were mentioned by 9.7 per cent of the first year teachers and by 11.6 per cent of the second year teachers. Other specific difficulties included under this heading were: absence of course of study, absence of textbooks, lack of equipment, too large and too many classes, too many extra-curricular duties and too many preparations. The percentages for these items combined for the three periods were: first two weeks, 27.7 per cent; continuing first year, 20.1 per cent; second year, 20.9 per cent. According to these figures, one-fifth of the teachers felt handicapped by the conditions under which they worked.

Provision for individual differences, as indicated by the data presented herein, was a problem of which teachers became increasingly aware as they increased in experience. The percentages for teachers at the three periods of experience were as follows: first two weeks, 29.1 per cent; continuing first year, 38.3 per cent; second year, 51.2

per cent. Many teachers were concerned with this difficulty from the beginning, but it was recognized as a difficulty by a larger percentage of teachers at each succeeding period of experience. It stood first among the difficulties listed by second year teachers.

It is also interesting to compare the relative importance attached by teachers and by principals to these difficulties. The percentages for teachers and for principals are given in Table V.

How the Principals and Teachers Differed

Fewer principals than teachers felt that motivation and individual differences were difficulties; more principals than teachers felt that control over pupils, methods of presenting subject matter and lack of preparation were difficulties. Conditions for work were mentioned by more than 20 per cent of the teachers; no principals, however, mentioned this difficulty. It is also interesting to note that while more than 10 per cent of the teachers gave lack of reference books and materials as a specific handicap to their teaching, this difficulty was not listed by principals. Five and seven-tenths of the principals, however, listed the failure to use instructional materials as a shortcoming in the teaching of beginning teachers. Two minor difficulties of the first two weeks, namely, lesson planning and administrative details were listed by teachers and were not listed by principals. Adjustment of the teacher to the classroom situation, which was one of the most important difficulties felt by teachers during the first two weeks, was mentioned by only one principal. The principals added three difficulties not mentioned by teachers, namely, the personal character of the teacher, some particular characteristic being mentioned as a weakness by 37.5 per cent of the principals; failure to appreciate the importance of pupils rather than subject matter was mentioned by 18.2 per cent of the principals; failure on the part of the teacher to make proper adjustment to the school and community was named as a difficulty by 14.8 per cent of the principals. On the other difficulties it was noted that the agreement was fairly close.

In brief, the ten most characteristic difficulties of first and second year teachers are: control over pupils, provision for individual differences, presentation of subject matter, motivation, organization of work and teaching materials, conditions for work, measuring achievement, teacher and pupil participation in the recitation, making assignments, and adjustment by the teacher to the classroom situation.

Difficulties peculiarly characteristic of the first two weeks of teaching are: adjustment of the teacher to the classroom situation, standards of work, lesson planning, administrative details and classroom procedure. Some of the difficulties decreased in frequency, showing that the teachers gradually gained control over them. These difficulties were: control over pupils, presentation of subject matter, measuring achievement, the assignment, teacher and pupil participation in the recitation and teacher preparation. One difficulty, provision for individual differences, was more frequently recognized as teachers gained experience.

In the main, the principals agreed with the teachers as to their difficulties, with occasional differences in emphasis. There were, however, some exceptions to this statement. Teachers listed four difficulties not listed by principals: conditions for work; adjustment of the teacher to the classroom situation (named by one principal); lesson planning; administrative details. The last two were minor difficulties of the first two weeks only. Principals listed four difficulties not listed by teachers: personal characteristics of the teacher; appreciating the importance of pupils rather than subject matter; the teachers' relations to school and community; the failure to use instructional materials. The combination of the difficulties recognized by teachers and those recognized by principals probably constitutes the best measure of the difficulties of first and second year teachers and, as such, serves as an important inventory for the supervision of beginning teachers.

Library Service to Rural Schools Still "Woefully Inadequate"

Library service to rural schools and communities has been extended in the past two years although it is "still woefully inadequate," according to the biennial survey of rural education recently made public by the Office of Education.

At the end of 1928 there were 260 counties with county library service.

Progress in securing legislation or state appropriations affecting rural school libraries is reported from Alabama, Arkansas, California, Iowa and North Carolina. At the close of the present biennium there are reported one or more full-time state library supervisors devoting considerable time to rural communities, especially to rural high school libraries in six states—Indiana, Michigan, Minnesota, New York, Tennessee and Wisconsin.

County libraries have been established during the biennium in Arkansas, Indiana, Kentucky, Mississippi, New Jersey, New York, New Mexico, North Carolina, Oregon, Pennsylvania, Texas and West Virginia.

Trends in Industrial Education and Their Effect on School Shops

The modern industrial supervisor faces a challenging range of new demands which are responsible for changes in shop planning and operation and in teacher training as well

By CLYDE A. BOWMAN, Dean, School of Industrial Education, and FLOYD KEITH, Head of the Departments of Sheet Metal and General Metal, The Stout Institute, Menomonie, Wis.

THE expansion of the American educational program has brought a challenging range of demands to the modern industrial teacher, supervisor and director. These demands have produced certain trends in industrial education that have markedly affected shop planning and operation and teacher development.

The school administrator, in his continuous efforts to bring about the highest degree of efficiency in the school, measures the school divisions in terms of the objectives of the system as a whole and in terms of the objectives of each division separately. The new demands that are being made on industrial education executives and teachers, if grouped according to origins, would arrange themselves in the following way:

1. Those caused by the modern practice in classifying school pupils.
2. Those caused by the needs for instructional material to solve the instructional situations resulting from No. 1.
3. Those resulting from modern studies of space, use, distribution and cost in school plants.
4. Those resulting from the rapid changes in the occupational fields that constitute the sources of content for the various phases of industrial education.
5. Those caused by needs for shop equipment provision to handle the pupil groups sent to the modern industrial teacher as a result of No. 1,

Fig. 1. This illustration shows the economical use of floor area in the placement of forges and of wall area in the storage of stock.

fitted to the instructional solutions using various types of material under No. 2, meeting the requirements resulting from the studies under No. 3 and having a range and adaptability to keep pace with No. 4.

In connection with these trends the industrial education executive should place the administration in possession of clear-cut material which (1) identifies these new demands, (2) indicates the space and equipment solutions to meet them and (3) indicates a teacher development procedure and program that will result in suitable instruction. This article is planned to indicate suggestive material in these three divisions prepared in a form considered to be best for administrative use.

The classification of pupils in purpose groups and in ability groups frequently presents the industrial teacher with a class, representing several instructional classifications, in a shop at a given period. To do the pupils justice, the industrial teacher must recognize these classifications in his instructional grouping of the pupils. In addition to purpose and ability classifications he must add his own classification of the pupils in terms of the progress they make in their work with him. Fig. 4 and Fig. 6 illustrate graphically some samples of instructional routing necessary for the recognition of administrative classifications. They are samples and are capable of many variations in use.

Fig. 4 is a routing such as a teacher might have to make should he have sent to him, for instance, a ninth grade class composed of several beginning exploratory pupils, so classified because of a transfer from other schools, and an advanced group of pupils who have already covered the exploratory work and have returned for certain phases of semispecialization or specialization work. This routing plan assumes that a general shop is available. For purposes of illustration, the general metal shop is used. The exploratory pupils should be given a range of contacts that is wide enough to be significant. The crosses indicate a time routing by weeks and by types of work. The circles indicate alternate groupings

OXY-ACETYLENE WELDING No. 4

To Make a Butt Weld on Two Pieces of Mild Steel

A steel weld is cast steel, without the grain and fiber produced by hammering or rolling, and consequently its tensile strength and ductility are usually below that of rolled or drawn steel.

Tools and Equipment: Oxy-acetylene equipment, goggles, lighter.

Materials: Mild steel to be welded, mild steel filler rod.

Procedure:

1. Select bar of mild steel ¼" by 1½".
2. Cut two pieces 3" long. Use cold shear.
3. Grind bevels.
   If the metal is over $\frac{3}{32}$" thick and less than ½" it should be ground from one side only at an angle of 45°. If the metal is over ½" thick it should be ground at an angle of 45° from both sides.
4. Select tip assembly ..... Sheet No. 1 Oxy-Acetylene Welding.
5. Place in torch handle ..... Sheet No. 1 Oxy-Acetylene Welding.
6. Set regulators ..... Sheet No. 1 Oxy-Acetylene Welding.
7. Light torch ..... Sheet No. 1 Oxy-Acetylene Welding.
8. Adjust to neutral flame .... Sheet No. 1 Oxy-Acetylene Welding.
9. Fuse bottom of "V."
   With the pieces in position, melt down the sides of the bevels flowing them together.
10. Add filler rod.
    Be sure that the metal in the "V" is molten before adding filler rod. If the metal is molten the filler rod will flow into it forming a perfect union. The weld should be slightly thicker than the welded metal.
11. Turn work over.
12. Float out crack.
    If this crack is not floated out by melting the metal, it will weaken the weld.
13. Add filler rod.
    Filler rod is added to increase the strength.
14. Cover and let cool. Cover with asbestos paper and let cool to relieve strains.

References: "The Welding Encyclopedia."

Questions:

1. Why bevel the pieces before welding?
2. What kind of metal is in a steel weld?
3. What happens to the steel if the heat is prolonged?

Sample 1.

OXY-ACETYLENE WELDING No. 8

To Make a Butt Weld on Two Pieces of Mild Steel

Tools and Equipment: Oxy-acetylene equipment, goggles, lighter.

Materials: Mild steel to be welded, mild steel filler rod.

Procedure:

1. Select bar of mild steel ¼" by 1½".
2. Cut two pieces 3" long.
3. Grind bevels ..... Page 29, "The Welding Encyclopedia."
4. Select tip assembly ..... Sheet No. 1 Oxy-Acetylene Welding.
5. Place in torch handle ..... Sheet No. 1 Oxy-Acetylene Welding.
6. Set regulators ..... Sheet No. 1 Oxy-Acetylene Welding.
7. Light torch ..... Sheet No. 1 Oxy-Acetylene Welding.
8. Adjust to neutral flame ..... Sheet No. 1 Oxy-Acetylene Welding.
9. Fuse bottom of "V" ..... Sheet No. 4 Oxy-Acetylene Welding.
10. Add filler rod ..... Pages 222-225, "The Welding Encyclopedia."
11. Turn work over.
12. Float out crack ..... Sheet No. 4 Oxy-Acetylene Welding.
13. Add filler rod.
14. Cover and let cool. ..... Sheet No. 4 Oxy-Acetylene Welding.

Note: Use sixth edition of "The Welding Encyclopedia."

Questions:

1. Why should a weld cool slowly?
2. What happens to the weld if a carbonizing flame is used?
3. Where should the filler rod be held when adding metal?
4. What should the angle of the bevel be?

Sample 2.

of pupils if the equipment is inadequate for the entire exploratory group. For instance, the crosses indicate that the exploratory group will spend the first four weeks in sheet metal work and the second four weeks in the machine shop. Should the exploratory group be too large for the equipment available for sheet metal work, half of the group would be working in sheet metal and half would be in the machine shop. At the end of the four weeks the two groups would be interchanged. At the end of the eight weeks they would proceed to the study of forging and welding. An interlocking arrangement for them could be planned if heat treating could be included. This records the scheduling of the exploratory group in terms of equipment and time. In the space for the advanced group the distribution would be in terms of the work desired which would be done at times when the equipment would be clear of exploratory pupils. This scheduling provides for the instructional recognition of purpose groups.

Interpreting the Schedule

Fig. 6 is a scheduling, first, to record individual pupil progress in the range and quality of work and, second, to make provision for differences of ability within instructional groups. At the top of the sheet are listed the names of the pupil members of the instructional groups. At the left are indicated the work assignments within the kinds of work. Under sheet metal are listed in index form the work assignments available. In the spaces under pupils' names the work assignments are indicated through the use of crosses. It might be that five work assignments would be the maximum possible accomplishment in sheet metal. Or it might be that three work assignments would be the minimum accepted for completion. As the exploratory group moves from sheet metal to machine shop the individual members will have completed possibly not less than three and not more than five of the work assignments. Numerous variations of these definitions of minimums and maximums are possible. The instructional material should identify clearly

OXY-ACETYLENE WELDING No. 10

Order of Operations in Making a Butt Weld on Two Pieces of Mild Steel

1. Select bar of mild steel ¼" by 1½".
2. Cut two pieces 3" long.
3. Grind bevels.
4. Select tip assembly.
5. Place in torch handle.
6. Set regulators.
7. Light torch.
8. Adjust to neutral flame.
9. Fuse bottom of "V."
10. Add filler rod.
11. Turn work over.
12. Float out crack.
13. Add filler rod.
14. Cover and let cool.

Reference: Sixth edition of "The Welding Encyclopedia" or information sheets.

Questions:

1. What should be the composition of the rod used?
2. How may the strength of the weld be materially increased?

Sample 3.

Fig. 2, above, illustrates the adequate working floor space around benches and machines. Fig. 3, below, shows the convenient spaciousness of the tool room and the economical provision for demonstration seats without the use of any floor space.

these minimums and maximums. The work assignments between the minimum and the maximum should provide for accomplishment along various lines. They should include: new combinations of basic processes, new constructions, assemblies; investigation and acquisition of related information; amplifications of design; speed in subsequent similar performances; investigation and acquisition of knowledge of new orientations for the pupil.

In the individual squares in the record in Fig. 6 may be entered such items as time, quality and rating. The record in Fig. 6, when it is completed, will indicate for each individual pupil the range of participation in the various kinds of work together with a quality rating. Such records enable the teacher to make an immediate classification of exploratory pupils when they return for additional work.

Fig. 4 and Fig. 6 are simply illustrations of means by which the administrator may be clearly informed as to how the industrial teacher is meeting pupil classifications and as to his identification in recorded instruction of the needs of pupils with regard to purpose, ability and progress.

It is assumed, of course, that a general shop is available. Either there should be available a general shop or else an interlocking use of single activity shops. Not only should such equipment be at hand but there must also be available appropriate instructional material. This material should be prepared to serve rather definitely in the several classifications of pupils. The exploratory pupil, the semispecialization pupil and the specialization pupil are classifications frequently found in school shops and not infrequently found in the shops at the same time. The samples of instructional material included here indicate suggestive variations in treatment in terms of the pupil classification.

Sample No. 1 is suggestive of the detail in which material is to be prepared when used for the instruction of younger, beginning, exploratory pupils. Sample No. 2 is instructional material on the same assignment but condensed in a manner appropriate for advanced, semispecialization or specialization pupils. Sample No. 3 is the form frequently used for the extension pupil. In the formulation of instruction sheets much illustrative material is used.

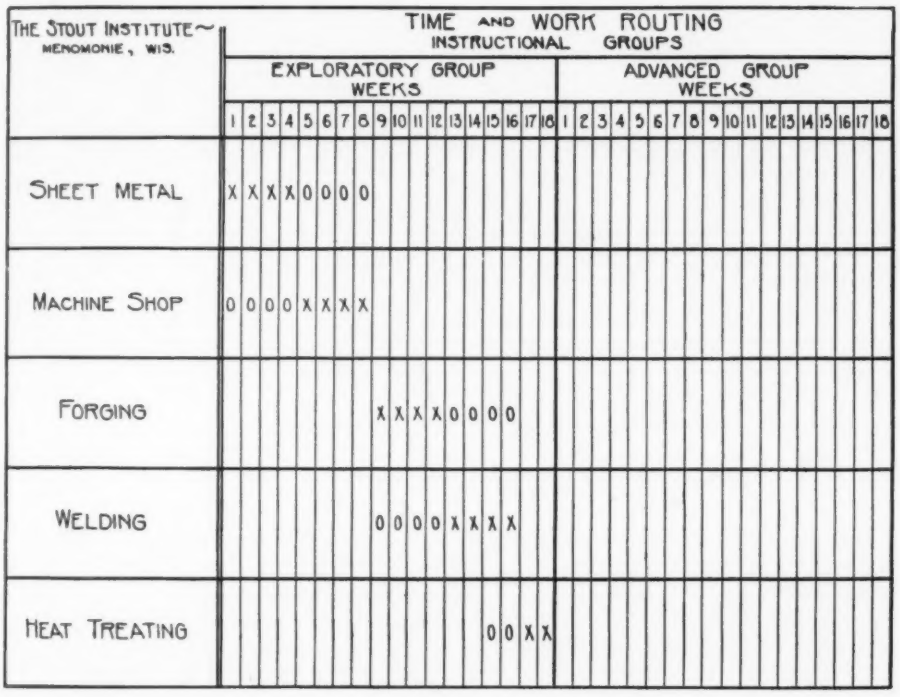
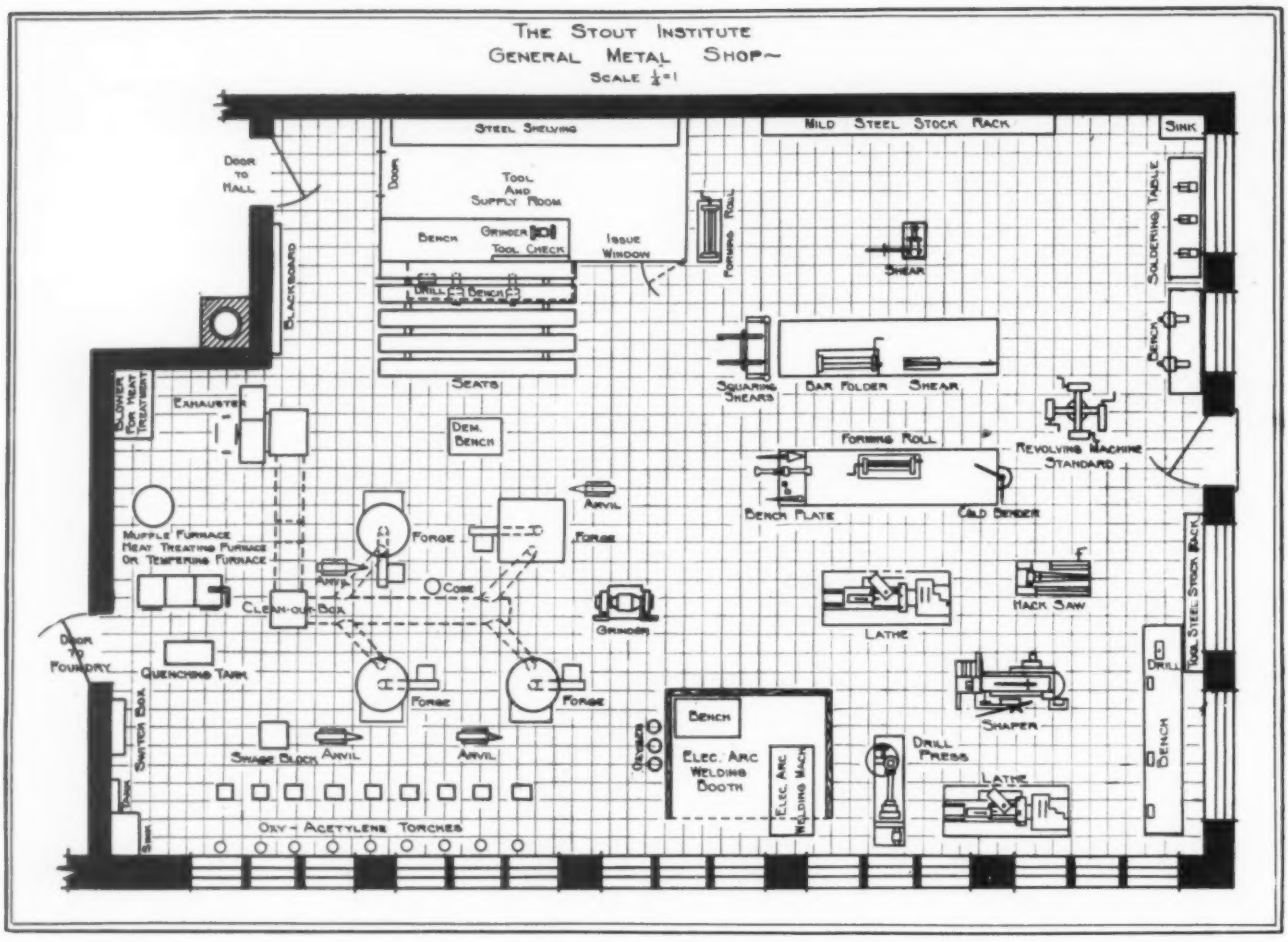

THE STOUT INSTITUTE
MENOMONIE, WIS.
TIME AND WORK ROUTING
INSTRUCTIONAL GROUPS
EXPLORATORY GROUP
WEEKS
ADVANCED GROUP
WEEKS
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18
SHEET METAL
X X X X 0 0 0 0
MACHINE SHOP
0 0 0 0 X X X X
FORGING
X X X X 0 0 0 0
WELDING
0 0 0 0 X X X X
HEAT TREATING
0 0 X X

Fig. 4. This figure illustrates graphically how a teacher may route a class of exploratory and advanced pupils. The crosses indicate a time routing by weeks and by types of work, while the circles indicate alternate groupings of pupils if the equipment is inadequate for the entire exploratory group.

Demonstrations are necessary in conection with the use of instructional material such as is illustrated in Sample No. 1, while with Sample No. 2 and Sample No. 3 the demonstration may or may not be necessary, depending entirely upon the individual pupil. Instructional material in the hands of the pupils materially assists in focusing and orienting the demonstration. The pupil purpose and progress in a given content division largely determine the type of instructional material to be used.

Instructional material varies in detail to fit several ranges in pupil classification. It varies to fit the pupil location between the two extremes of the beginning exploratory pupil who is gaining his first insight into the modern industrial situation and the extension pupil whose daily environment is modern industry and who is quick to



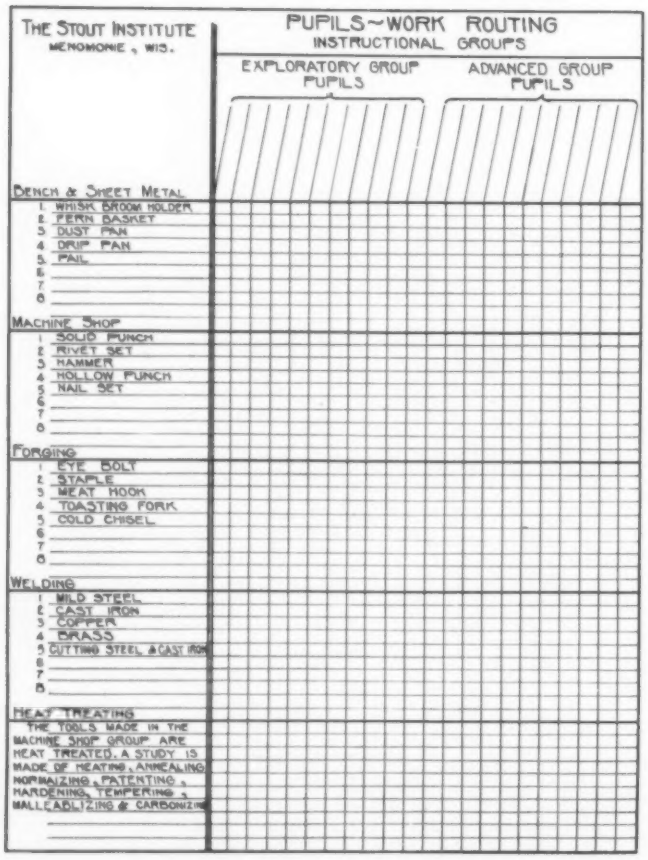


Fig. 5, a sample floor plan, shows how a general metal shop is designed to handle the complete range of pupil classifications, while Fig. 6, at the lower left, is a schedule by which the teacher may record individual pupil progress and make provision for differences in ability in the various groups.

sense the orientation and application of instruction. The instructional material varies also to fit the progress of the pupil. The instructional episode has not completed its cycle until the pupil can analyze, route and perform on his own initiative. The samples of instructional material presented suggest a trend in this direction.

Fig. 5 illustrates a sample floor plan of a general metal shop designed to handle the complete range of pupil classifications as to purpose, ability and progress. The equipment is selected and arranged to furnish instructional opportunity for all types of purpose groups. Sheet metal, machine shop, forge work, oxy-acetylene welding, electric arc welding, heat treating and bench metal work are represented. For the exploratory pupil ample breadth is available in the occupations represented. At the same time the equipment is typical and adequate to prepare the specialization pupil and to bring about his

advantageous entry into industry. The shop is compact. Fig. 1 illustrates the economical use of floor area in the placement of forges and wall area in the storage of stock. Fig. 2 illustrates the adequate working floor space around benches and machines. Fig. 3 shows the convenient spaciousness of the tool room and the economical provision for demonstration seats without the use of any floor space. The demonstration seats which are hinged on the upper part of the tool room swing up off the floor through the use of counterweights.

Flexibility Is Necessary

The distribution of the selected equipment makes possible an instructional emphasis in proportion to the occupations represented. In addition to the foregoing considerations, the selection of equipment has been planned to make provision for fundamentals. Flexibility is provided to meet the changes in modern industry. These changes make necessary new combinations of basic equipment or new procedures in the use of equipment. Modern production in metal work is highly specialized. Such specialization is in the form of subdivisions and distributions of the basic processes available in this type of shop. Modern specialization involves the development of specialized machinery to fit individual production problems. The scope of the instruction in this type of school shop enables the pupil to interpret readily the specialized distributions. The maintenance of the products of this specialized production has developed a nationwide use of general metal workers. This type of shop permits direct representation of the maintenance phase of modern metal work as well as basic instruction in the fundamentals of modern specialized production.

The rapid changes in the occupational fields which constitute the sources of content for the various phases of industrial education give the industrial educator a continuous problem. Whether the pupil under instruction be an exploratory pupil, a semispecialization pupil, a general education or an extension pupil the content must be truly representative of the occupational sources. Many of these changes are in basic materials and processes which must be immediately recognized in the formulation of instructional material. These changes frequently result in redistributions of work which, in turn, make necessary a redistribution of workers. The individual slated to enter modern industry must be taught to expect rapid change. He must be prepared not only to perform but he must also be taught to interpret the situations in which he is to perform. All mechanical processes, commercial processes and distributing avenues are now subject to constant change. There is a sharp need for orientation, preparation and training. There is an immediate livelihood significance in the interpretive studies to be made as a definite part of industrial education.

To illustrate the distribution of these changes in type situations, one of the basic changes in the production of raw material is the making of steel direct from the blast furnace. The redistribution of work and workers is illustrated in the growing tendency to replace castings with electrically welded steel shapes. The development of tungsten carbide is replacing high speed steel for cutters, with a modification of basic processes on machines. Nitriding is replacing old basic processes in case hardening. In many instances pipes are welded rather than threaded. The electric spot welder has replaced riveting in numerous products. Stellite, a nonferrous metal, is now available in a form that permits its application with a torch in bringing about change in forge work as well as in other divisions. A welder faces the plowshare and displaces the smith. The development of soft stainless steel sheets makes this material available in a wide range of applications, while it was previously restricted in use, due to hardness. Oxy-acetylene and electric welding are rapidly replacing forge welding. The manufacture of metal furniture is apparently just getting well under way.

The Coordination of Schools and Industry in Hawaii

The coordination of the schools and industry is to be studied in an educational survey of the Hawaiian Islands if the survey plan proposed by Governor Lawrence M. Judd is approved by the general public and the next legislature, according to *School and Society.*

"Industry in Hawaii is inseparably tied up with the results of education," Governor Judd said in announcing his survey plan. "In order to know what type of training or how much should be offered in the schools from a vocational standpoint it is necessary to know what opportunities in industry are available throughout the territory. It is therefore absolutely essential that the schools and industry be coordinated."

It is further pointed out that the problem in the islands has been causing an increasing amount of discussion. The problem is what to do with graduates who are preparing themselves, at the expense of the taxpayers, for "white collar" jobs that do not exist.

How Personnel Studies of Teachers Help School Administration*

There is as great a need for information concerning a teacher's vital qualities as there is for information concerning her scholastic achievement and professional training

By THOMAS W. GOSLING, Ph.D., Superintendent of Schools, Akron, Ohio

IT IS an interesting fact that at the very time when mass action has assumed great importance, when collective bargaining has received the sanction of many, when the significance of the group and of group activities has been stressed, when cooperative endeavor in all forms is considered of great consequence and when social psychology has become an important study, increasing emphasis should be placed upon a study of individuals and upon an analysis of personality.

According to a statement in the *Educational Record*[1] for July, 1928, "The widespread interest in personnel methods affecting industry, the professions and the colleges was precipitated January 1, 1925, in a meeting called by the National Reseach Council, Division of Anthropology." The interest in personnel studies may be taken as an indication that the individual is not to be swallowed up in the mass, that his inherent worth and significance are to be recognized and that in the recognition of the individual, definite limits are to be placed on the ominous development of mass thinking and mass action.

Applying the Methods of Industry to Education

The greatest developments in the application of personnel methods have taken place in industry. Under the influence of the American Council on Education and various state and local guidance bureaus and departments, it is being found that these studies are applicable to high school and college students. Little has been done as yet in the field of teaching, where the need of an understanding of the individual is of great importance.

For the most part young men and women are admitted to professional schools for the training of teachers on the basis of their academic ability. Most of these young people who pass the required tests in the training school and who are not noticeably deficient in morality and personality ultimately receive certification as teachers and appointments to teaching positions. After a teaching appointment is secured, the incumbent must be noticeably, almost grossly, inefficient before he forfeits his position.

Two important reasons make it desirable if not imperative to develop personnel studies of the teaching staff. The first grows out of the relation of the public to the schools and out of the demands the public is making upon the teachers. The second is individual in nature and grows out of the values that may accrue to the teacher himself.

Basis of Salary Increases Unsatisfactory

In many of our American cities boards of education, representing the public, have set up salary schedules for teachers. Usually the annual increments paid to the teachers are based upon length of service or are dependent upon the attainment of certain objective requirements, such as travel or additional professional study. Occasionally the attempt has been made to grant annual increases on the basis of merit. On account of the lack of objective measurements of merit and the inadequacy of the purely subjective measures applied, the attempt to base increases in salary upon merit alone has been generally disastrous. Practical considerations have forced boards of education to make the salary increases almost automatic.

The result of our present methods of operating salary schedules has been to restrict the opportunity of the best teachers to receive salaries commensurate with their worth and at the same time to lift the semi-incompetent and the inefficient to the level of the best. This is a wasteful and pernicious practice and cannot always continue. When there is a limited fund for the payment of salaries, it is obvious that if the poor teachers are to receive salaries equal to those paid the good ones, the general level of all salaries is held down to a lower plane by the weight of the mass. The public is altogether willing to pay adequate sal-

*Read before the Conference of City Superintendents, ninth annual session of the Ohio State Educational Conference, Columbus.

[1] The American Council on Education, The Educational Record, supplement 9, July, 1928, p. 4.

aries to the best teachers. It will not always be willing to pay any salaries to the incompetent.

In school administration to-day, one of the most difficult problems is the measurement of competence. Boards of education and superintendents and principals of schools annually are confronted with the necessity of appraising the work of the teaching staff. On account of the lack of adequate objective measurements of success in teaching, many teachers are retained on the pay rolls who would better be dismissed. Incompetence frequently is felt and recognized but in many instances it cannot be proved. The result is that the level of teaching is not as high as it should be.

Personnel Studies Determine Competence

A superintendent of schools is held to strict accountability for the dismissal of teachers. Even if the board of education supports his decisions without question, the superintendent still is accountable to the public and to the teaching staff. Consequently, only flagrant cases of incompetence are dealt with summarily. Others are either ignored or tolerated or the teachers are warned. Superintendents will continue to follow this practice until objective measures are devised that will put their decisions beyond question.

Personnel studies and records offer a way out of the present difficulty. Fortunately, objective measures of various types are in the process of making. To be sure, most of these tests are tests of scholarship. There are, however, a few of a different type which aim to determine aptitude, volition, attitude and appreciation. The teacher who knows the most is not necessarily the best teacher. Though this remark is platitudinous, it is necessary because we are still likely to overrate scholarship and to underrate other vital qualities. We need to know whether the teacher loves her job; whether she loves children; whether she is both gentle and firm; whether she is sympathetic, diligent, honest; whether she has control of her emotions; whether she is well poised; whether she has refinement, sensitiveness, energy, executive ability, good physical health and idealism. We have as great a need for full information concerning all of these as for information concerning scholarship and professional training and a multitude of other things that contribute to the wholesome life activity of the teacher. At present, most of these items relating to the teacher are not measured or are measured inadequately.

In order that personnel studies of the type indicated should have a maximum value, they must be cumulative and composite. In the issue of the *Educational Record* previously referred to, it was stated that "None of the isolated bits of information that make up a record would justify any definite conclusion regarding the abilities and the interests of a teacher. It is the cumulative effect of objective observations concretely stated, showing glimpses of conduct under varying circumstances and spread out over a series of years, that delineates a real bent, that manifests the persistent interests that dominate a life." A record of this kind should begin early in the life of the individual; it should continue through the school and college years, and it should be added to frequently throughout the period of professional service. That which counts most in an individual life history is the general trend. By means of adequate personnel methods, this trend may easily be discerned. The life history may be read like a book. When this kind of objective evidence is available, school administrators will be able to eliminate snap judgment based upon subjective impressions.

If personnel studies are of direct value to school administration and of indirect value to the public, they are of even greater value to the individual teacher. One of the great tragedies in life is to make a wrong choice of life work. Persons who have it within themselves to obtain eminent distinction and to perform services of a high order in one kind of activity may be quite unsuited to another and for that reason may be rated as failures. Personnel studies reveal an individual to himself; they help him to face the facts of his life squarely, and they assist him in making necessary adjustments. If these adjustments lead him from teaching into some other calling, the change doubtless will be wholesome for both the individual and the public.

Why Some Teachers Fail

The advantage that the acceptable teacher may derive from personnel studies comes from proper placement within the profession. Teachers whose work in kindergarten and the elementary grades is excellent may not be successful in high school; conversely, excellent high school teachers may become failures if charged with the responsibility of teaching in the elementary grades. Not all successful teachers can succeed in executive positions, although success in the classroom has been taken as a criterion of success in the principalship or the superintendency. What school administration greatly needs to have is the detailed information upon which to base correct placement of teachers.

A further heavy obligation rests upon school administration—that of discovering, developing and rewarding exceptional merit in teachers. Un-

less this merit is definitely known, it is of course impossible to take appropriate action. One of the most deadening things that any one can do is monotonously to perform routine tasks without hope of change, recognition or reward. This type of activity is deadening everywhere. It is deadening in commerce and industry and is especially deadening in teaching requiring an unusually high level of intelligence and ability. Consequently, personnel studies that will enable school administrators to recognize meritorious members of the staff will be of tremendous value not only to the public but also to the individual teacher. To build up adequate cumulative and composite records for every teacher will require much time and effort. The results, however, will yield rich returns.

A great deal of promising material on the development and the application of such methods has been presented by Hull in his new book on "Aptitude Testing." Personnel studies combined with the results of aptitude tests will make it possible not only to select good material for the teaching staff but also to eliminate after trial those who have made mistakes in their choices and are unsuited for the work.

The considerable amount of resentment that teachers frequently feel against subjective methods now in use is in part justifiable. School administration has an obligation to the cause of public education as a whole and to the teachers in particular, to remove all causes of irritation and of resentment. If adequate personnel studies of the teaching staff can be developed, there is good reason to hope that school administration will be able to make a large contribution to economical management through the elimination of the unfit on the basis of objective evidence and through the proper placement of all those who remain in the profession. At the same time, it will make a genuine contribution to the peace of mind and to the happiness of teachers by making it possible for them to know themselves and to receive the just rewards of their merits.

Training the Adult to Use His Leisure Time Wisely

With the steady reduction of working hours among the wage earners of this country through the development of automatic machinery looms the possibility of universal education, says the *Journal of the National Education Association.*

A period of six hours a day, five days a week, forty-eight weeks a year for the masses is a possibility by 1940. The factors which point in that direction interact upon each other so that each gain at one point means gains at several other points, according to the *Journal.* Among these factors are the uplifting influence of universal education; the development of automatic machinery; scientific factory management; the reduction of ill health and disease; changes in home occupations which send women into office, shop and factory; the elimination of parasitic industries, such as the liquor business; the reduction of war making activities. New power is being developed rapidly. Increased leisure is inescapable.

In view of these facts, E. Ruth Pyrtle, president, National Education Association, has announced a nationwide all-inclusive movement for the wise use of leisure. The movement is to be led by a national commission on the wise use of leisure composed of the officers of the department of adult education and prominent citizens who have made extensive contributions to American life. There will also be commissions in each of the states.

The adult movement will find expression in adult education activities, in research, in convention programs, in American Education Week, in vitalized group study and faculty meetings, in the platforms and programs of allied groups, in courses in high schools and colleges and in a series of notable articles that will deal with facts and philosophy that bear on leisure.

State Supported Colleges Are Chiefly Coeducational

State supported colleges and universities in the United States are chiefly coeducational, according to an announcement by the Office of Education. Of ninety-four state supported colleges, seventy-four are coeducational, it is pointed out in a statement in a recent issue of *School Life,* published by the office. The statement is couched as follows:

Of ninety-four state supported colleges and universities in this country, twelve are for men students exclusively and eight are for women students exclusively. The remaining seventy-four institutions are coeducational. Five of the ninety-four institutions are in South Carolina; five in Virginia, four each in Georgia and in Texas; three each in Alabama, Colorado, Michigan, Mississippi, Montana, New Mexico, North Carolina, Ohio, Oklahoma, and South Dakota; two each in Florida, Indiana, Iowa, Kansas, Louisiana, Massachusetts, North Dakota, Oregon, Pennsylvania, Utah and Washington; and one each in the remaining states.

How Washington Equips School Girls for Health

By MARGUERITE FLORENCE STEIS, M.A.,

Washington, D. C.

THE programs of physical education and athletics carried on for girls in the various private accredited secondary schools in the District of Columbia were recently made the object of critical study in view of the growing importance of physical training in the development of young women.

Information was gathered from fifteen schools, representatives from whose physical training departments supplied the data by means of the questionnaire method.

The study reveals that the physical education programs in these schools differ somewhat in organization and administration. In general they are planned by the respective principals according to the especial needs of each school.

Eleven schools have women directors who not only do full-time teaching in physical education but who also supervise the athletic activities of the girls outside the classroom. Three schools have part-time directors who visit the schools several days during the week to carry on this work. Only one school does not have any program of physical education activities for girls. In the smaller schools the instructors in physical education usually teach expression and have charge of the dramatic work.

The teaching personnel of these schools includes two types of instructors: the directors and their assistants and special coaches for the various athletic activities and sports. The director in one school has a full-time graduate in physical education as an assistant, while in two schools trained pupils serve as assistants. One school is unique in that it uses pupil leadership entirely. Eligible pupil leaders choose the sport they prefer and for which they feel best fitted. Leader classes are held twice a week in each of the activities. Each leader has her own group which she meets four times a week and for which she is responsible. Leader classes are held in tactics, setting up exercises, basket ball, hockey, volley ball, baseball, coaching and refereeing, track and field. Basket ball tournaments are held, and hockey, tennis, golf and horseback riding are managed by the pupil leaders.

The special coaches for athletics and sports devote only a limited time to these schools. In ten schools there are special coaches for such activities as horseback riding, fencing, dancing, hockey, military drill, basket ball and rhythmic work. One school employs as many as five special coaches. This school holds that pupils have strong preferences for certain activities and that each pupil should be privileged to choose the sport for which she feels herself best adapted and from which she will therefore derive the greatest benefit. Interest and proficiency in one activity will, it is believed, lead to interest and perhaps to active participation in another.

One school does not exercise immediate supervision over all of its activities. Pupils are allowed credit for outside activities, such as horseback riding and dancing, taken under private instructors, but the school requires reports on attendance. The directors are assisted by teachers of other subjects in taking girls on walks, especially those excused from physical training by the doctor. It is the custom in two schools for teachers of other subjects to be present during the physical training classes and to act as monitors.

The educational qualifications of the instructors of physical education teaching in these institutions vary.

Two schools have instructors with training equivalent to a four-year college course, with physical training as a major subject. Two schools

have teachers with A.B. degrees who have not majored in physical training, but who have taken supplementary summer courses in the subject. Three schools have teachers who are graduates of two-year normal courses in physical education. Three schools have teachers who are graduates of a two-year normal course in physical education and expression.

These instructors received their training in the following educational institutions: University of Wisconsin; Columbia Normal School of Expression and Physical Education, Chicago; Brown University, Providence, R. I.; Harvard Summer School of Physical Education, Cambridge, Mass.; Normal College of the American Gymnastic Union, Indianapolis; Teachers College, Columbia University; Pennsylvania State Normal School, State College, Pa.; Wellesley College, Wellesley, Mass.; Swarthmore College, Swarthmore, Pa.; Boston School of Physical Education; New Haven Normal School and Arnold College for Hygiene and Physical Education; Temple University, Philadelphia; Marjorie Webster School of Expression and Physical Education, Washington, D. C., and Emerson School of Expression and Physical Education, Boston.

Eight of the physical training instructors expressed the intention of returning to college to continue studying and to specialize in courses that would enable them to offer a higher grade of work.

All schools but two have athletic associations, with fees ranging from 50 cents to $10 a year. In the schools having athletic associations pupil membership is compulsory, with one exception. The amount collected goes toward defraying expenses and purchasing awards. The athletic association is always under the direction of the physical training director and the athletic board. The appropriations for athletics made by the various institutions vary considerably. The physical training director lists the needs of the department and the school supplies the demand. One school appropriates $100 yearly, with more to be given if necessary. Another school appropriates $300 yearly as the limit.

Various systems are employed by the different schools in awarding major and minor school letters, cups, and various insignia. One of the simplest systems is for the school teams in various sports, such as basket ball, hockey and swimming, to be selected by the physical training director. Proficiency in the particular sports is the only requirement. Competition in basket ball is interscholastic. Major school letters are awarded to members playing a certain number of games of basket ball. Minor school letters are awarded to winners in intramural sports such as hockey, swimming, track and field. Skill in the sport and the number of games participated in are the only eligibility requirements. In other schools a grade is given in gymnastic work. This grade, if sufficiently high in connection with a certain minimum mark in scholastic standing, entitles the

In addition to their more formal athletic activities these girls attending a convent in Washington, D. C., find javelin throwing an excellent means of development.

A member of the basket ball squad has just completed a long distance throw on this beautiful outdoor court, while her team mates look on.

pupil to a minor school letter and places her on a class B team.

The foregoing requirements are for the first year. The second year requirements are the same except that a pupil who has previously received a letter receives a monogram. Much emphasis is placed on swimming and a high degree of proficiency in that sport is required. Pupils attaining this proficiency are placed on what is called an A team.

Finally, the major school letter is awarded when the pupil makes an A team in swimming and a B team in sports, or two B teams in addition to a required average based on the orderliness of her locker and her attendance at the physical training class.

A third type is the point system, generally used in connection with the varsity team. The pupils elect two captains. Each captain is the head of her side which is usually called by a color. Captains draw for colors. Each captain alternately chooses a pupil until the entire school is divided into two sides. The physical director acts in an advisory capacity.

These sides may then develop teams that will compete in all the different physical activities offered. The school is thus faced with the problem of offering a variety of activities that will catch and hold the attention of the pupil and gain her enthusiasm and support. Schools using this system give credit for every physical activity into which the pupil enters. Competition is between sides and points are given to winning sides in basket ball, hockey, baseball, volley ball, soccer, tactics, golf, tennis, swimming, track and field, gymnastic meets, archery and riflery. Individual pupils can also score points for their side by putting in extra hours of practice; by playing on two or more teams; by taking week-end walks; by a perfect attendance record, and by neatness.

Those less capable of strenuous exercise can work for their side by adhering to their assigned schedule in such activities as walking, deck tennis, croquet and swimming. The only requirement is that the activity must be carried on outdoors if possible. Often a certain number of points are offered as an award and incentive to girls making the most progress.

With few exceptions varsity teams are also selected from both sides for outside competition. According to the side she represents and the number of games she participates in, the pupil accumulates points for her side.

Major letters are given only to varsity members, and awards are made on the basis of the number of games played, school spirit and scholastic standing. But the real enthusiasm and rivalry are between sides. A banner or some similar award is given to the side having the most points. The losing side usually treats the winners to a banquet, or a presentation chapel is held where minor letters, cups, trophies and dif-

ferent insignia are awarded to the winning teams and the winning pupils.

While health, happiness and inner growth are definite objectives of physical education, the spirit of rivalry and striving to win are the forces by which the program is made to function.

Physical Education Requirements Vary

Fourteen schools have definite requirements regarding physical education. These requirements vary according to the types of schools. Eleven schools are attended by day pupils as well as by boarding pupils, two are attended by boarding pupils only, and one school is restricted entirely to day pupils. In the schools where the attendance is restricted to day pupils exclusively or to boarding pupils exclusively, all pupils are required to participate in physical education activities. Among the eleven schools attended by both day and boarding pupils, only one school requires physical education of all the pupils. Ten schools require this work only of boarding pupils and consider it optional for day pupils.

There is wide variation in the practices of these schools regarding the number of times a week physical education is required; the number of pupils in a physical education class, and the amount of time required for each class. Physical education is required once a week by three schools; twice a week by four; three times a week by three; four times a week by three, and five times a week by one school. The number of minutes included in each class period varies from thirty to ninety. The average class period is forty-five minutes. Three institutions require only two years of physical training and eleven require four years.

Few of the institutions have any special physical training requirements besides the regular program offered. Two schools require every girl to play on a team, which she herself selects and one school has a week-end system of walks, varying from ten to thirty minutes, for which the girl is given credit.

Number of Classes Assigned Each Teacher

The number of classes taught by each instructor a day in addition to other classroom activities varies. In eleven institutions teachers average two classes; in one institution the teacher averages four; in another, five, and in another, six. In the institution in which the teachers have more than two classes a day, it was found that their other duties were correspondingly light. High school and college classes are not separated because the college department is usually so much smaller than that of the high school that the institution would not be justified in having separate instructors for college and high school pupils unless they could aid in other departments. The same holds true if there is a primary department in connection with the school.

In schools having a full-time instructor, the work is on a much higher level and the objectives seem more clearly defined. A greater variety of organized games are carried on, thereby giving many girls an opportunity to participate. In schools where the instructor teaches only twice a week, the classes are large, the periods are somewhat short and there is practically no equipment. The work is necessarily confined to a more formal program. Generally, basket ball is the one organized game. In general the number of pupils in a class varies from fifteen to fifty.

All of the schools have their sports after school hours. All except four have all physical training work after school hours. All the institutions carrying on a program of games require that the instructor accompany the team and assist in officiating. The same holds true for intramural games. Other general demands made upon the instructor's time are study hall duty, door duty, dining hall duty, office duty, assisting the school physician, dramatics, pupil supervision, chaperoning parties and playground supervision for smaller children. Some instructors give as many as sixteen hours a week extra to these various duties. Most of the teachers are expected to be capable of coaching a variety of activities, such as floor work, dancing, games and swimming.

How the Athletic Day Is Arranged

Many of the instructors believe that considering the enrollment there are enough physical training teachers to handle the required work, but that more time should be allowed the physical training department and that the program should be enlarged.

The general academic program of the schools usually lasts from 9 a.m. to 2 or 2:30 p.m. Since the need of relief drills is not greatly felt, organized drills are not given. On account of the camparatively short school day the athletic program begins in the afternoon. Two schools have outdoor setting up exercises for thirty minutes before breakfast. Another school has its formal gymnasium lesson during the morning and athletic activities after school. One school has a recess period during which the pupils are on their honor to take a ten minutes' walk. Every day at 2 p.m. another school has twenty minutes of setting up exercises outdoors, unless the weather is inclement, when the exercises are held indoors.

Competitive games are a regular part of the

school program. Coaching is given at definite hours and pupils receive the regular credits allowed for such work. Most schools do not permit any substitution for games, although one school allows military drill to take the place of physical training. Practically all of the schools are aiming to develop their physical training program so that eventually every pupil will play on some competitive team.

Pupils participating in the school program of physical education must wear the required gymnasium costume of dark bloomers, white middies, ties, sneakers and dark hose. All of the schools require these for indoor and outdoor work, with the exception of three that have a special outdoor costume consisting of heavy shoes, blouse or tunic and jacket. The costume is required for all types of work except for tennis and hiking, when only tennis shoes and hiking costume are used. Showers after lessons are not required. However, it is customary for the girls to go to their rooms and take a shower or a bath preparatory to dressing for dinner. Most of the girls keep their gymnasium costumes in their rooms. This decreases the demand for lockers. When lockers are used a system of marking is adopted, based on the cleanliness and orderliness of the locker.

When a lesson is given over to the development of some highly organized game, such as basket ball or hockey, from which one or more teams is eventually to be selected, all the energy and time are concentrated on the technique necessary for the building up of that particular sport. Ten schools have formal work during the winter, in addition to basket ball, volley ball, bat ball, horseback riding, fencing and dancing. Three schools have yearly formal work, with basket ball as the one organized game. One school has a well equipped country day school where the pupils are taken by means of a special school bus, when the weather permits. All the athletic activities are carried on at this country day school.

TABLE I—PHYSICAL ACTIVITIES INCLUDED IN THE SCHOOL PROGRAMS

Activity	*Number of Institutions Providing Activity*	*Number of Athletic Teams*	*Intramural*	*Interschool*
Red Cross life saving	3	.	.	.
Corrective gymnastics	5	.	.	.
Technique or coaching of physical training leaders' class	1	.	.	.
Swimming	8	.	3	.
Folk dancing	8	.	.	.
Clog dancing	5	.	.	.
Interpretive dancing	5	.	.	.
Dalcroze	2	.	.	.
Fencing	2	.	1	.
Track	7	.	3	.
Field hockey	7	5	3	3
Bowling	1	.	.	.
Tennis	11	8	.	.
Soccer	1	.	.	.
Light apparatus	11	.	.	.
Swedish gymnastics	9	.	.	.
German gymnastics	3	.	.	.
Danish gymnastics	1	.	.	.
Tactics	7	.	.	.
Tumbling	2	.	.	.
Golf	4	1	.	.
Riding	8	2	.	.
Basket ball	11	6	.	7
Baseball	6	6	1	.
Volley ball	5	6	2	.
Hiking	6	.	.	.
Archery	2	.	.	.
Riflery	1	.	1	.
Lacrosse	1	.	.	.
Roller skating	1	.	.	.
Military drill	1	.	.	.
Bat ball	1	.	.	.
Achievement tests	1	.	.	.

In one institution which does not employ the formal type of lesson, the work consists of sports and games, including the use of apparatus. Seven schools use the Swedish system of gymnastics, while four use a combination of all systems.

The formal lesson always lasts for thirty minutes, sometimes for forty-five minutes. From three to five minutes of the lesson are allowed for tactics and from ten to fifteen minutes for setting up exercises. The rest of the period of the formal type of lesson is devoted to different activities. Some days it is given over to the use of the apparatus, some days, to dancing and other days, to less highly organized games. Four schools have introduced stunts as a part of the lesson. One school has a weekly class in tum-

TABLE II—FACILITIES FOR PHYSICAL EDUCATION OFFERED BY THE SCHOOLS STUDIED

Kind of Equipment	*Total Number*	*Size (Feet)*	*Size (Yards)*	*Remarks*
Gymnasiums	9*	25x60; 50x40; 20x45; 40x50; 50x50; 30x45; 150x35; 70x42**		
Rest rooms	3			
Infirmaries	4			
Dressing rooms	2			
Showers	18			
Playgrounds	12			
Athletic fields	1			
Indoor tracks	2			
Outdoor tracks	1			
Hockey fields	4		90x25; 25x40	
Baseball diamonds	1			
Indoor basket ball courts	4	20x60		
Outdoor basket ball courts	4			
Soccer fields	1		100x30	
Golf courses	2			9; 3 holes
Rifle ranges	1			
Archery	1			
Swimming pools	8	20x35; 20x40		
Tennis courts	22			
Red Cross kits	2			
Game fields	2			
Campus	..			

*One school uses outside gymnasium.
**Approximate sizes.

bling. Two schools use the squad system in apparatus work. Pupil leadership is not highly developed in some of these classes. Four schools, however, report that it is their aim to develop girls in such a way as to make them capable of refereeing basket ball and other games and of assisting in the judging of track and field events.

In all of these schools it is customary to allow the teacher of physical education to plan her own daily program and to encourage her to use originality and initiative in this work. No set custom is followed regarding the matter of demonstrating activities. In some schools this is done for the most part by the instructors, in others, pupil demonstrators are used to a large extent.

In eleven schools the pupils are grouped in physical education classes according to their grade in high school. In three schools no special classification is made, and the pupils of different classes take their physical education lesson in the same class.

In the schools where the enrollment is not large, this lack of classification is not to be considered as a serious handicap, as a large percentage of the physical education work consists of games and the children of various ages enjoy playing together.

While fourteen of the schools require all physically fit pupils to take physical training, only six allow any definite unit credit for this work. Four institutions give four credits for the four years and one institution gives one credit for the four years.

There seem to be no definite rules covering such points as the presentation of credentials for previous physical education work from the school previously attended; units of credit allowed upon registration for physical education work previously taken, and the requirement that pupils take additional physical educational courses provided the school previously attended did not have physical education.

It is noteworthy that there seem to be no serious problems connected with the absences from class on account of absence from school or cutting classes. Eleven schools allow a small number of cuts varying from one to three a month. Four schools require pupils to make up all work missed.

TABLE III—KINDS OF EQUIPMENT USED IN THE SCHOOLS STUDIED

Kind of Equipment	*Total Number*	*Kind of Equipment*	*Total Number*
Ladders	4	Box	1
Horses	6	Poles	1
Rings	9	Giant strides	1
Bucks	2	Rooms	2
Mats	25	Rifles for military drills	1
Springboards	8	Piano and drum for military drill	1
Stall bars	10	Balance beams	5
Ropes	..	Balance ladders	2
Parallel bars	2		

While all the schools maintain that failure in physical education means that pupils cannot graduate, all of the schools stated that they had never had any failures.

Hygiene is not offered in any of the schools as a subject, as it has not been included in a definitely organized department or branch of physical training. Every instructor, however, is alive to its importance and desires to introduce the subject. One school feels that the pupil derives a little hygiene information from the physiology course. Another feels that the biology course affords similar information. At least three schools reported that lectures on the subject were occasionally given. One school depends upon the school nurse to give the girls individual instruction. Some of the instructors expressed themselves as being unprepared to present the subject properly.

In view of the growing importance of hygiene, more serious attention should be given it in these high schools. Young women desirous of entering physical training work should be encouraged to take an active interest in this subject.

All the schools require the girls to present a doctor's certificate when they enter school. If pupils fail to bring this certificate they are given a medical examination by the school physician. The certificate states the condition of the girl's health and whether or not she is permitted to participate in athletics.

Pupils Are Given Physical Tests

In the test given by most doctors to determine whether the pupils may take part in athletics, the heart, lungs, height, weight and blood pressure are examined. In the heart test, first the pulse is counted and recorded. Then the pupil takes a small amount of exercise, usually twenty-five hops on each foot, the pulse being immediately counted again and recorded. Finally, after a rest of three minutes, the pulse is counted for the third time and recorded to see whether the heart rate has returned to normal. One school is also doing follow-up work by making metabolism and electrocardiograph tests of pupils whose heart examinations show any irregularity.

If the pupil is greatly overweight, she is encouraged to reduce. At present, however, institutions have few pupils who are overweight. To keep the girls up to the standard weight is the main problem. When it is found out that the girls are more than 10 per cent underweight, special attention is given to the matter of diet, rest is prescribed and exercise is limited.

Special attention is given to those excused from physical training on account of some heart irregularity. In such cases, the doctors prohibit strenuous exercise and prescribe slow walking. In place of strenuous exercise, one school advises swimming for one pupil with infantile paralysis, and croquet, deck tennis, archery and golf for pupils with heart disease.

In two of the schools having school doctors, the program of follow-up medical work is carried on successfully. At the close of the school year a second examination is given. These private schools are in a position to keep their girls under close health supervision, each girl being guaranteed a great deal of personal attention. The final follow-up work at the end of the school year covered by this survey showed that most of the girls had improved in weight and in general health during the year.

Supervising Pupils' Health

The average number of pupils excused by the doctors varies in different schools. In four schools the average is one out of every eight. In seven schools the average is one out of sixteen. In one school the average is one out of forty-two. The last named school seems to have the best organized supervision over the health of the girls. In this case the closest cooperation exists between the doctor and the school instructors. Such a variety of opportunities is offered along different athletic lines that every girl is able to fit herself in somewhere on the program.

The physical examination as conducted by the physical director seems to be less definite. Seven schools do not require the physical director to give a physical examination. Five schools make use of this type of examination Most of the sample physical examination record cards contain spaces for special measurements, such as those of the neck, chest and waist. These measurements are taken usually more as a matter of tradition than with any practical end in view.

Some instructors are planning to give more attention to the examinations. Other instructors who have not previously given these examinations are planning to do so. Some are planning to do special summer study in order to be able to handle this work more competently and to do the necessary follow-up work.

In some schools it is customary to require a physical examination at the opening of the school term, no physical activities being allowed until these examinations have been made. In other schools physical activities are begun as soon as school opens. One school provides free consultation for the pupils with the doctor.

All of the schools include posture tests as a part of the formal gymnastic lesson. When given in this connection, the tests include general cor-

rections together with selected exercises. Individual exercises are prescribed for each girl requiring special attention. Two of the schools go into the subject more thoroughly. They have women graduates from medical schools to handle the corrective work. The Bancroft test, the American Posture League test and other tests are applied. Special classes in foot and back work are held, or individual cases are handled. These classes take the place of the regular gymnastic work and the pupil is given gymnastic credit for them. One school feels that military drill for the girls acts as an incentive toward good posture.

Two of the schools felt that the posture of the girls in attendance during the year covered by this survey was of a standard not to warrant the need of any special posture classes. Most of the schools feel no need for any special room or equipment for posture work. The regular gymnasium and equipment, such as mats, stall bars, balance beams, booms, rings, Indian clubs and dumb-bells supply the necessary demand. One school had a special posture room, equipped with bar, mat, boom and mirror.

In general the instructors feel that in private schools cases of exaggerated spinal curves and flatfoot should be under the direction of doctors who have specialized in this field.

One school having an enrollment of 170 pupils provides a special class for the correction of foot defects and another class for the correction of spinal defects. In order to stimulate interest most of these schools grade the girls in posture.

Caring for Sick Pupils

At all the schools, when a pupil is taken ill, a physician is immediately called in, the parents are notified in case of necessity and arrangements are made to have a graduate nurse handle the case. Unless the illness is of a contagious nature, the girl continues to occupy her room. In addition to this, ten of the schools have a registered resident full-time nurse to supervise the health of the girls; three of the schools have matrons or house mothers whose duty it is to watch for any signs of ill health.

The nurses and the house mothers also act in a health advisory capacity. The matrons often assist in chaperoning the girls. On the whole, however, their chief assignment is to watch over the girls. If there is an infirmary or rest room, it is the duty of the matron to keep it bright and cheerful.

A completely equipped infirmary is not needed in many cases since all the boarders have private rooms. Eight schools report infirmaries or rest rooms with from two to five beds. The infirmaries are not large, are well placed and airy, with plenty of sunshine, and are furnished according to sanitary and hygienic standards.

The schools that have lower grades or primary departments in addition to high school work have playgrounds for the children. These playgrounds are closely supervised, usually by the physical training instructor.

Swimming Is Emphasized in Some Schools

Four schools permit the high school pupils to use the children's playground. When the playground is used in this way the high school girls are not supervised. It is generally felt that high school girls are interested in organized competitive games which require all the free time they can spare for practice. Two schools use municipal grounds for hockey and one school takes advantage of a municipal golf course.

Two schools have private swimming pools. None of the schools requires ability to swim as a requisite for graduation. The sizes of the classes vary, the average class being composed of about ten pupils. The length of the class period is thirty minutes. Swimming is greatly emphasized in these two schools, both of which encourage swimming as a health measure for girls who have had infantile paralysis. Exercising an undeveloped limb in the water is beneficial and exercise taken in this manner is less fatiguing.

Five schools offer no swimming courses to the pupils. Seven schools use the Y. W. C. A. pool, which is conducted by capable, well trained instructors who see that all sanitary and hygienic rules are observed. All swimming strokes as well as junior and senior Red Cross life saving are taught. A large percentage of the work is given outdoors. In the Fall the outdoor activities are tennis, hockey, golf and riflery. In the winter the indoor activities are basket ball, volley ball and gymnasium work. In the Spring the outdoor activities are tennis, golf, archery, track and field sports and baseball. During the entire year the outdoor and indoor activities are horseback riding, marching, dancing, swimming and walking. The light apparatus work includes the use of dumb-bells, Indian clubs and wands.

Seven schools have annual field meets. Four of these schools estimate that 100 per cent of the pupils participate in these; one school, 75 per cent; and two schools, 50 per cent. Six schools have swimming meets yearly with 50 per cent of the school enrollment participating. Five schools have gymnastic exhibitions; in three, 100 per cent take part and in two, 50 per cent. Four schools have yearly pageants with the entire school participating.

The City School Research Bureau as a Fact Finding Agency

The city school administration of Pasadena, Calif., finds its bureau of administrative investigation and research indispensable in collecting, charting and disseminating important findings

By W. HARDIN HUGHES, Director of Administrative Investigation and Research, Pasadena City Schools, Pasadena, Calif.

DURING the past two years the bureau of research of the Pasadena City Schools, Pasadena, Calif., has been undergoing modification both as to form and purpose. As the new name indicates, increased attention is now being given to the administrative phases of investigation and research. This change in emphasis is necessitated by the increasing problems that constantly confront the superintendent and the board of education.

To solve these problems intelligently a fact finding agency is essential. We can no longer depend on incidental information. Data must be collected from many sources, analyzed and interpreted. Some of these data are near at hand; some are scattered; some may be found only in the literature of educational experiment and investigation. To collect the facts and to put them into meaningful form is a task that requires time, preparation and special techniques. For these reasons the bureau of administrative investigation and research has been established.

During the past year such activities as the following have been carried on or directed by the bureau: utilization studies of school plants; comparative study of teachers' salaries in Pasadena and other Californian cities of like size; comparative study of teaching loads; comparative study of school costs; study of child accounting systems and partial revision of our own, including the making of cumulative record forms for use throughout the system; spot mapping the elementary and secondary school populations; devising and revising "new type" examinations for applicants; preparing a graphic rating scale for using applicants' references; making charts for the superintendent and the board of education, studies and reports required from time to time by the superintendent's office.

Activities Are Varied

Certain of these activities are of such a nature that they become almost continuous. In addition to those already listed we should add activities similar to the following: evaluating the measurable results of instruction; analyzing the work of past years, insofar as possible, to show current conditions and trends; studying shifts and trends

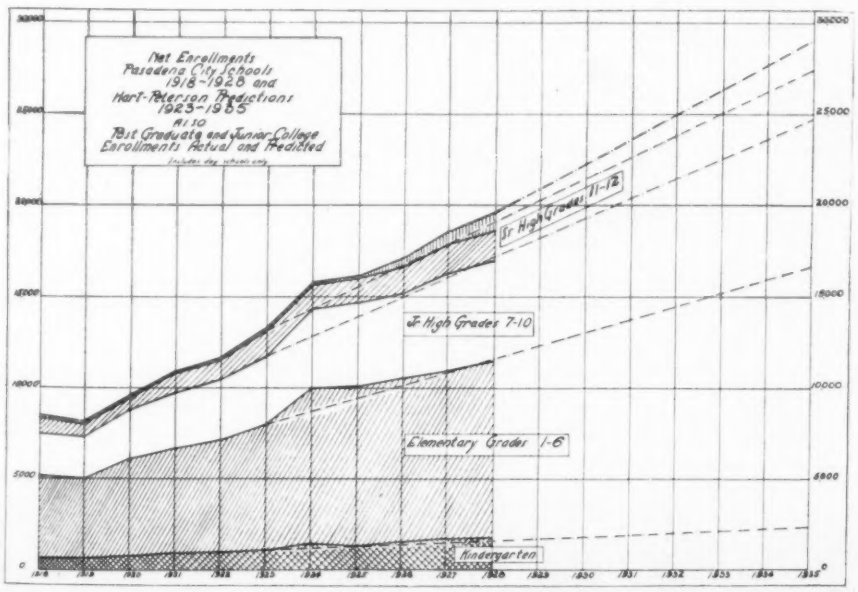


Chart I shows the rapid growth of the Pasadena schools over a period of eleven years. The estimates were based on a considerable number of factors generally known to have a direct relation to population.

of population from year to year, with a view to forecasting building needs; devising ways for evaluating the effectiveness of newly introduced curricular content, method and procedures; rating school buildings in relation to their assigned purposes; directing the construction of scientific tests and basing their content on our own courses; cooperating with individuals and groups in carrying on practical research studies; building up a research library which shall make available to the administration the best information bearing on our local problems.

The Superintendent's Research Council

The superintendent's research council consists of the following members: the director of administrative research, the assistant superintendent of schools, the director of elementary education, the director of child welfare and the supervisor of guidance. It is concerned with such matters as evaluating the several possibilities for cooperative research within the system, setting up major problems of research with a view to deriving the greatest practical benefits for our schools, interpreting the results of major investigations and research and serving as a clearing agency for the important findings.

Research committees work within the council. Chairmen of these committees are usually the dean of personnel of the junior college, the counselor of the technical high school, the principals of the junior high schools, the principals of the elementary schools, the director of special subjects, the principal of the part-time high school and the director of adult education.

In each elementary school the principal acts as chairman of the research committee. The other members are appointed jointly by the principal and the director of research. In the secondary schools the student counselor is the acting chairman. The other members are appointed by the principal in each school acting jointly with the director of research.

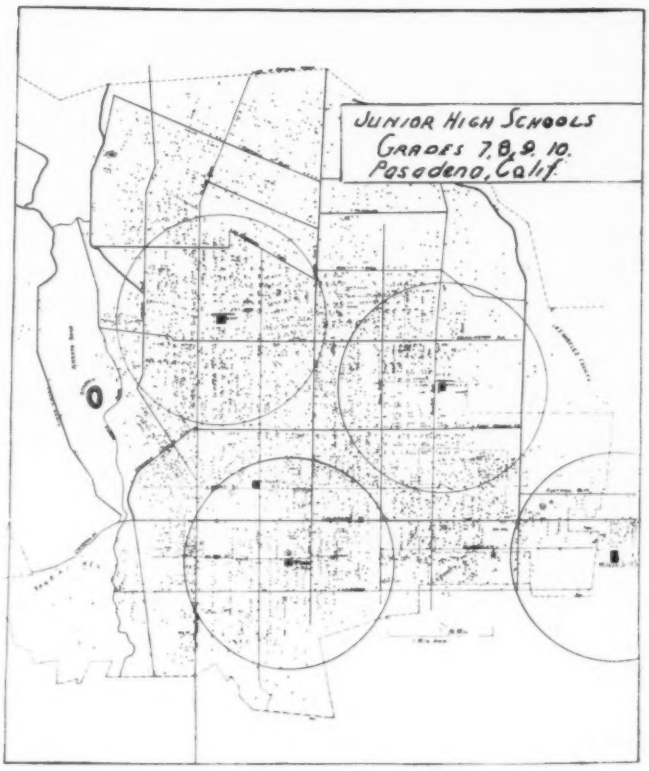


Chart II.

The research committee in each school is responsible for close cooperation with the bureau of research in all matters pertaining to standardized testing. Through its chairman it supervises whatever testing program is approved by the superintendent's research council. The research committee in each school also cooperates with the central office in devising "new type" examinations based on the content of our local courses of study, the purpose being to develop scientific tests which shall measure the effectiveness of instruction.

Through its chairman the research committee

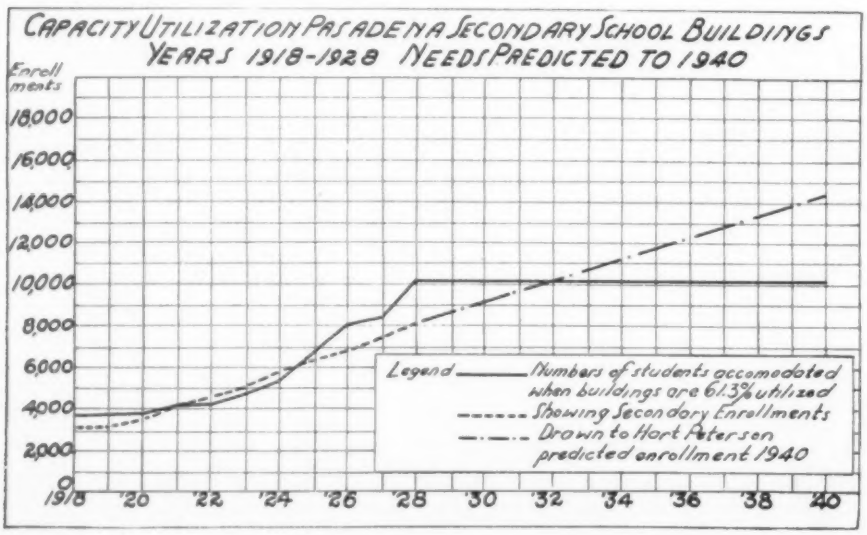


Chart III demonstrates the extent to which classrooms of the secondary school buildings have been utilized in each of the years since 1918.

in each school is responsible for transmitting to the bureau of research copies of scores made in all standardized tests. It also cooperates with the research bureau in enlisting the interest and participation of teachers in the gathering of data necessary for the construction and revision of local tests. The several research committees are invited, from time to time, to engage cooperatively in special investigations, measurement and research, to meet in conference with the research council for consideration of research findings and to carry back to their respective groups and schools the interpretation of these findings in order that improvement in educational practice may result. An important function of the research committee is that of keeping their associates informed concerning the purpose and progress of research activities locally and of enlisting their cooperation in the attempted solution of common educational problems.

Research workers everywhere are coming to see the necessity for graphic presentation of their findings. It is one thing to collect data and to make minute analyses, but it is an entirely different thing to present these analyses in an effective form. The importance of a good display of facts cannot be overestimated. For this reason our bureau is constantly attempting to make use of the graphic method in all of its major investigations and research. The accompanying charts are representative but not all-inclusive.

What the Charts Show

In Chart I the rapid growth of the Pasadena schools over a period of eleven years may be seen. In 1923 Doctor Hart and Doctor Peterson made a prediction concerning our probable growth. Their estimates were based on a considerable number of factors generally known to have a direct relation to population, including telephone stations, water meters, gas meters, postal receipts, bank deposits, building permits and the average daily attendance in schools. It will be noted that the forecasts made five years ago are in almost perfect agreement with the facts to-day. It is difficult to imagine a more accurate prediction having to do with the growth of a city school system.

The outline map in Chart II shows the residence location of each pupil in our present junior high school. Studies of this type are made annually that we may know as accurately as possible what the shifts and trends in the school population are. Each spot on the map represents a single pupil. The map for the kindergarten and elementary grades is similar to this one excepting that the dots are more numerous. A continuous survey of this kind is of value in choosing sites for new schools or in abandoning or enlarging old ones.

In Chart III may be seen the extent to which the classrooms of the secondary school buildings have been utilized in each of the years since 1918. Following an extensive building program, since 1924 the capacity of our buildings has become greater than the demand. In 1928 we could have cared for approximately 2,000 more pupils of secondary grade than were enrolled. It will be noted, however, that the enrollment prediction line and the building accommodation line inter-

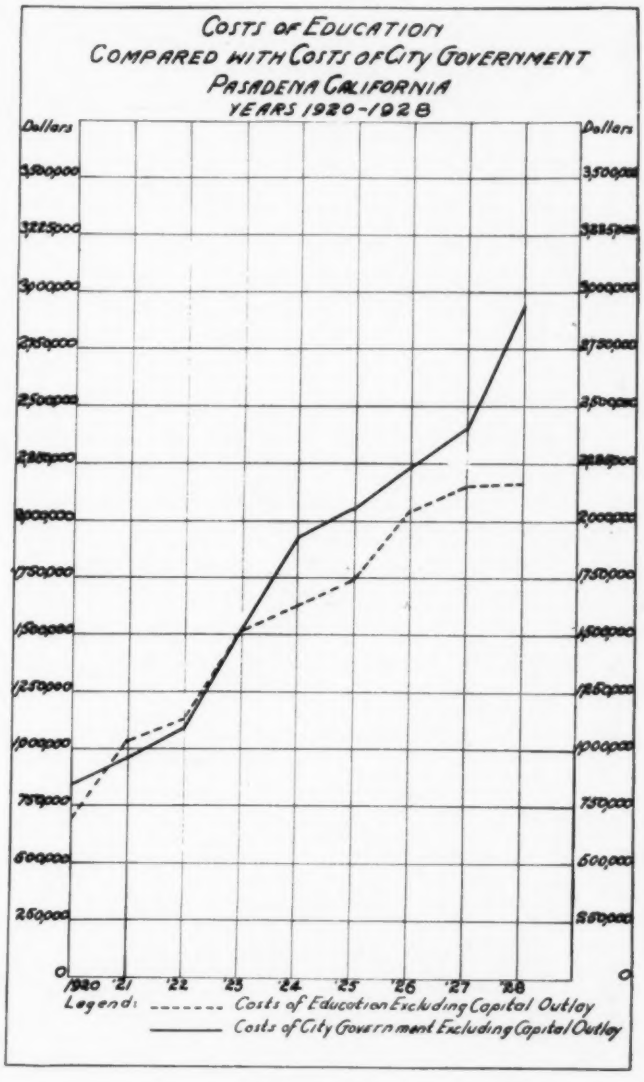

COSTS OF EDUCATION
COMPARED WITH COSTS OF CITY GOVERNMENT
PASADENA CALIFORNIA
YEARS 1920-1928
Dollars
Dollars
'20 '21 '22 '23 '24 '25 '26 '27 '28
Legend: ------- Costs of Education Excluding Capital Outlay
——— Costs of City Government Excluding Capital Outlay

Chart IV.

sect in 1932. In other words, we shall have to provide new buildings at that time if our secondary school enrollments continue to increase at the present rate of growth. A similar chart indicates that at approximately the same time our elementary school buildings will be in use to capacity.

Perhaps the accompanying charts will be found more or less self-explanatory, the purpose being

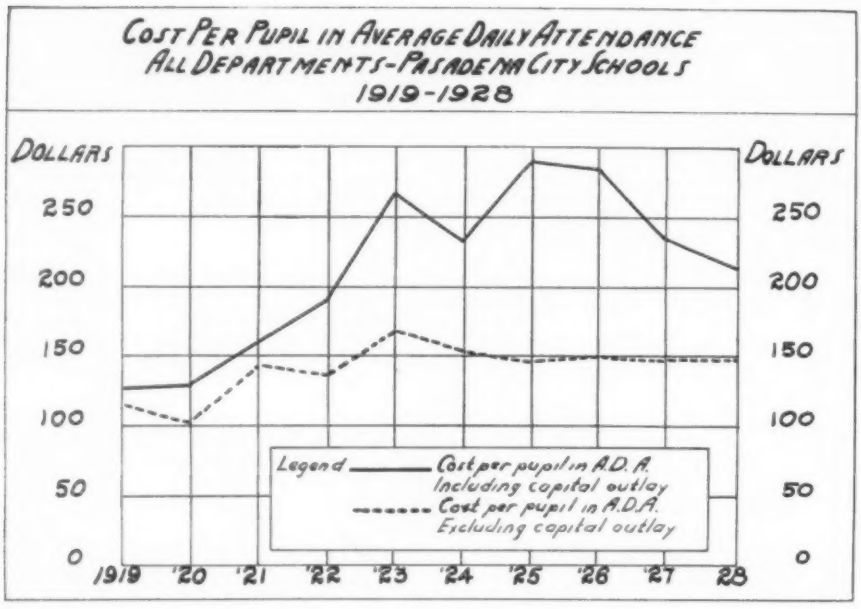


Chart V translates the amounts spent for education into costs per pupil served. It will be noted that there has been a material falling off in costs during recent years.

merely to give a bird's eye view of the possibility of presenting in compact, precise fashion the results of continuous surveying.

When we consider the increasing amount of money spent for public education in our community we may neglect to take into account the equally significant fact that larger and larger amounts are being spent for other things as well as for education. Chart IV sets forth graphically the comparative local tendencies of expenditures for public education and city government. During the first four years of this period the amounts spent for the two functions compared were practically equal. From 1923 to the present, however, the costs of education have lagged behind those of city government.

A Study of Teaching Loads

Figures showing increasing amounts spent for education tell only a part of the story. To be meaningful these amounts should be translated into costs per pupil served. Chart V does this. It will be noted that the peak of costs (excluding capital outlay) per pupil in average daily attendance was reached in 1923. If we include capital outlay, the peak of costs occurred in 1925. The extensive building program, brought to a temporary conclusion in 1928, accounts for the high level of costs as shown in the upper line of the chart. Whether we include capital outlay or exclude it from the picture, we find a material falling off in costs per pupil during recent years. Even with capital outlay excluded, the cost per pupil in 1928 was 12 per cent less than in 1923.

Chart VI answers the question: How do the teaching loads in the various departments of our city schools compare? Important measurable factors entering into teaching loads are numbers of pupils, length of class periods, and frequency of class meetings. In Chart VI, "load" is expressed in terms of pupil-clock hours per week. On this basis one pupil meeting one hour daily for five days a week makes a "load" of five clock hours. One hundred such pupils would, therefore, make a teaching load of 500 pupil-clock hours.

It will be noted that the median load in the junior high schools of our city is larger than the median load in any one of the other divisions of the system. The elementary teaching load comes next with a median of slightly more than 550, and an upper quartile of approximately 700. One naturally asks the question as to why 50 per cent of the teachers in the junior high schools should have loads heavier than 75 per cent of the teachers in the elementary schools. Why, furthermore, should the teaching load in the junior high schools be so much greater than the load in the schools both above and below? These facts reveal a situation suitable for further study.

How do the teaching loads in the various sub-

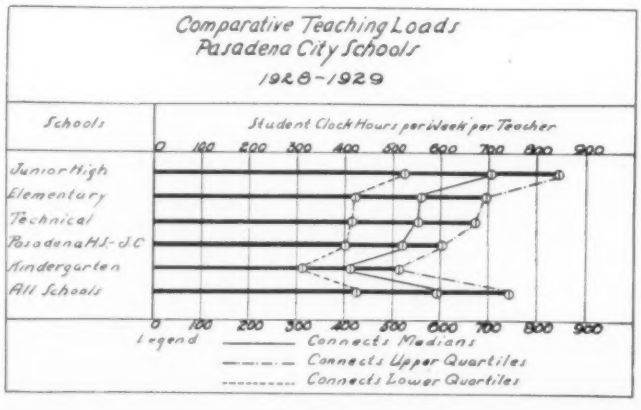


Chart VI.

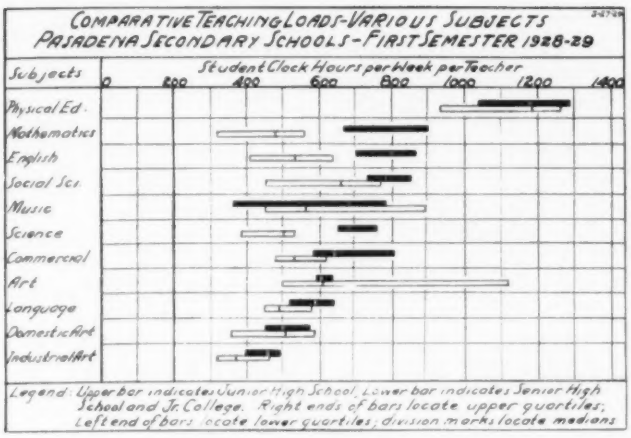


Chart VII.

jects of our local secondary schools compare? Chart VII answers this question and shows graphically the comparative loads in the various subjects of the Pasadena secondary schools. It will be noted that in certain subjects—mathematics, English, social science and physical science—a wide discrepancy exists between the loads in the two divisions of our secondary schools. Further study of this situation needs to be made before we shall be prepared to justify the practices herein indicated or to reject them as undesirable. The chart merely presents the fact that wide discrepancies exist. Not only is it true that the loads in the same subject differ as between the two divisions of our secondary schools but the loads in different subjects in the same division vary even more widely. Perhaps the differences may be justified by the nature and methods of the subjects but a more careful study of this situation needs to be made before conclusions can be reached.

Under the new "single salary" schedule how are classroom teachers distributed as to training? Chart VIII shows a percentage distribution of classroom teachers according to their academic training. It will be noted that in the senior high schools and junior college approximately 76 per cent of the teachers, have the equivalent of a master's degree or better; 21 per cent have one year's training beyond the master's, and 3 per cent have actually secured the doctor's degree. Note that in the junior high schools approximately 50 per cent of the teachers have had one or more years of training beyond the bachelor's degree. In the divisions below the junior high school a considerable proportion of the classroom teachers are college graduates or better. These distributions indicate the extent to which teachers in the various divisions of the system are in a position to profit from the salary schedule which takes training as well as experience into account in the determination of salaries.

Factors Relating to Salary Interpretation

It is generally known that the purchasing power of the dollar varies from time to time. Sometimes the dollar will buy more and sometimes it will buy less of a given commodity or service. Salaries also vary. Prices and salaries, however, do not necessarily vary at the same time and in the same direction. When prices of commodities and other services remain constant and salaries increase there is a real gain to the salaried person; when prices advance and salaries remain constant there is a loss; when prices and salaries remain constant, or when both move in the same direction, the financial status of the salaried person is unaffected.

In Chart IX several factors having a direct relationship to salary interpretation are presented

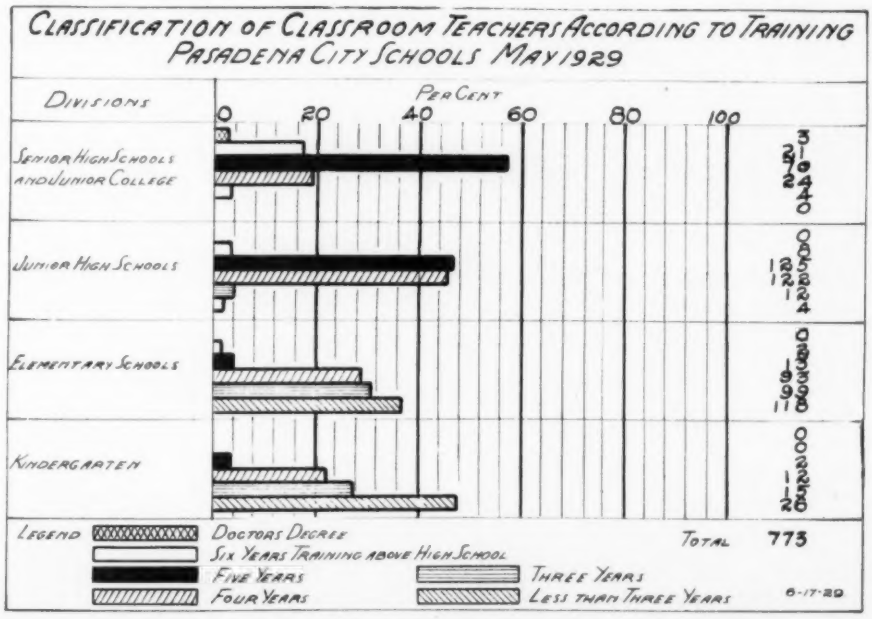


Chart VIII is a percentage distribution of classroom teachers according to their academic training. This distribution indicates to what extent teachers may profit from a salary schedule taking into consideration previous training.

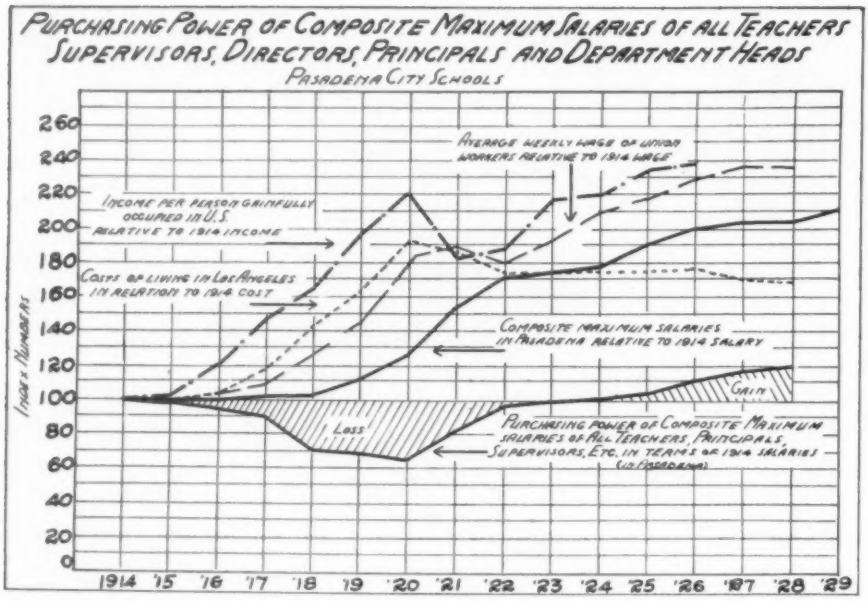

PURCHASING POWER OF COMPOSITE MAXIMUM SALARIES OF ALL TEACHERS SUPERVISORS, DIRECTORS, PRINCIPALS AND DEPARTMENT HEADS
PASADENA CITY SCHOOLS
INDEX NUMBERS
260
240
220
200
180
160
140
120
100
80
60
40
20
0
AVERAGE WEEKLY WAGE OF UNION WORKERS RELATIVE TO 1914 WAGE
INCOME PER PERSON GAINFULLY OCCUPIED IN U.S. RELATIVE TO 1914 INCOME
COSTS OF LIVING IN LOS ANGELES IN RELATION TO 1914 COST
COMPOSITE MAXIMUM SALARIES IN PASADENA RELATIVE TO 1914 SALARY
GAIN
LOSS
PURCHASING POWER OF COMPOSITE MAXIMUM SALARIES OF ALL TEACHERS, PRINCIPALS, SUPERVISORS, ETC. IN TERMS OF 1914 SALARIES (IN PASADENA)
1914 '15 '16 '17 '18 '19 '20 '21 '22 '23 '24 '25 '26 '27 '28 '29

Chart IX presents in graphic form several factors having direct relationship to teachers' salaries. For comparison, each of these factors has been reduced to the form of index numbers, with 1914 as the basic year.

in graphic form. We are not only interested in the nominal increase of teachers' salaries from year to year but we wish to know what relationship exists between such increase, the income of other persons gainfully employed, the costs of living in this community and the purchasing power of the dollar. For purposes of comparison each of these factors has been reduced to the form of index numbers with 1914 as the basic year. For example, the upper line of the chart labeled "Income Per Person Gainfully Occupied in the United States" is to be read as follows: The income per person in 1914 has an index number of 100. In 1915 this income per person had not been increased. In 1916 and the years immediately following the increase was constant and significant mounting in 1920 to an index of 220. This is to say that in the last mentioned year the income per person was 120 per cent greater than in 1914.

The Classification of Pupils

Each of the other lines in the chart is to be interpreted in similar fashion. Each factor is expressed in relation to what it was in 1914. The fact, however, that all lines begin at a common point does not mean that the amounts for which they stand were equal in 1914. But following each line from that beginning or 100 point we are able to see the variation from year to year. The "Costs of Living" line will be noted as paralleling the "Income Per Person" line reaching its peak in 1920 when the costs of living were nearly twice as high as they were in 1914.

In this connection it is interesting to note that increases in teachers' salaries came tardily as compared with the increases in the costs of living. Until 1918 these salaries remained practically the same as they were in 1914, although the costs of living were rapidly mounting throughout this period. Over the period of fourteen years the total loss in purchasing power of teachers' salaries was greater than the total gain. This loss is demonstrated by a careful comparison of the areas of the hatched portions of the chart.

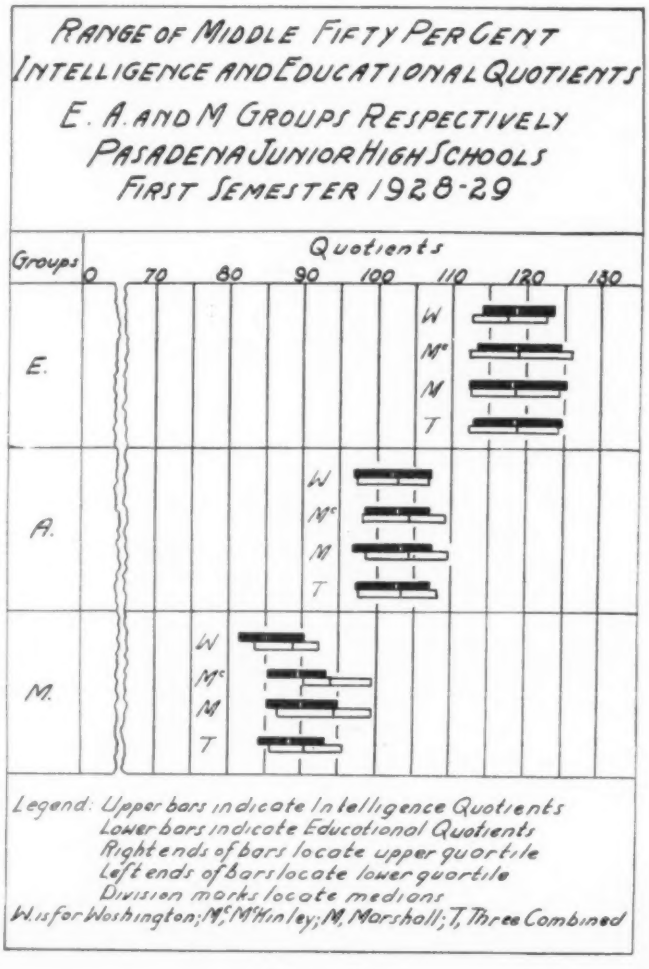

RANGE OF MIDDLE FIFTY PER CENT INTELLIGENCE AND EDUCATIONAL QUOTIENTS
E. A. AND M GROUPS RESPECTIVELY
PASADENA JUNIOR HIGH SCHOOLS
FIRST SEMESTER 1928-29
Groups
Quotients
0 70 80 90 100 110 120 130
E.
A.
M.
W
Mc
M
T
Legend: Upper bars indicate Intelligence Quotients
Lower bars indicate Educational Quotients
Right ends of bars locate upper quartile
Left ends of bars locate lower quartile
Division marks locate medians
W is for Washington; Mc, McKinley; M, Marshall; T, Three Combined

Chart X.

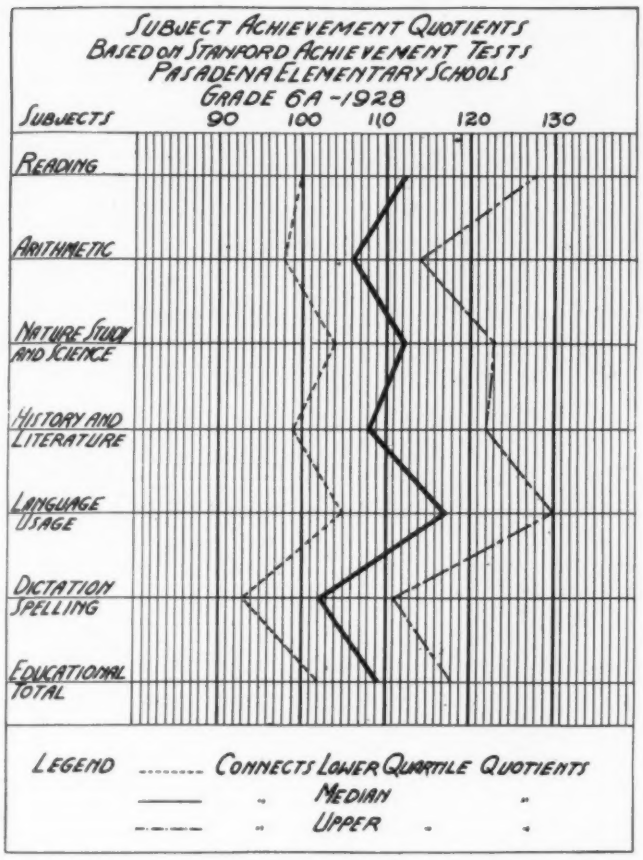


Chart XI.

In the multiple track system of the Pasadena junior high schools what is the relation of intelligence quotients and achievement quotients to classification and placement? A number of factors are taken into account in the classification of our pupils. Mental and educational tests supply only a portion of the data used for this purpose. Chronological age, physical condition as related to health, attitudes and work habits, home conditions as related to outside employment, previous school record, composite judgment of teachers, special interests—all these factors are considered before placing pupils in appropriate groups. But after all these factors are taken into account there still remains a definite and positive relationship between the intelligence quotients and achievement quotients of our pupils. In Chart X this relationship will be noted. The E group is made up of pupils pursuing an enriched course; the A group, of pupils in the courses adjusted to the average; the M group, of pupils in the minimum courses.

A Comparative Study in Achievement

In this study, as in others relating to the ability and achievement of pupils, we conclude that the lower the ability the greater the achievement in proportion to ability. It will be noted, for example, that the range of the middle 50 per cent of achievement quotients in the minimum group is considerably higher than the range of the middle 50 per cent of intelligence quotients in this same group. In the average group the difference is less prominently in favor of achievement while in the enriched group the range of achievement quotients is practically the same as that of the intelligence quotients. In other words, it seems that our schools are doing the best job in teaching pupils of subnormal intelligence. Either this or the greater ages of the subnormal pupils have enabled them to gain enough by incidental experience to do better on the achievement tests than we would otherwise expect them to do.

Chart XI shows how the achievement of pupils in the Pasadena elementary schools compares with achievement of pupils in other systems. On the basis of standardized test results in Grade 6A of our elementary schools we are justified in making the statement that the kind of achievement

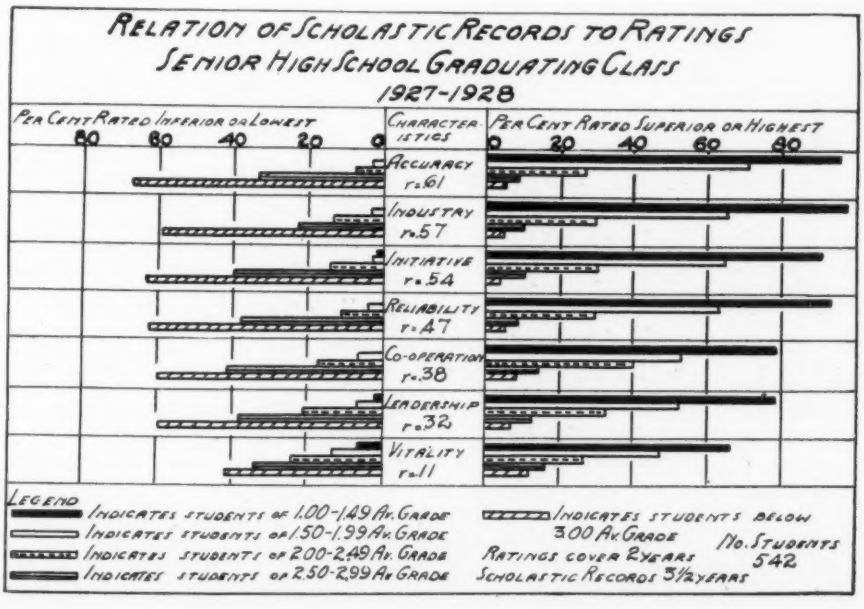


Chart XII points out the relationships of scholastic records to the personality traits of pupils determined by a carefully devised scale of habits, attitudes and interests of the pupils.

thus measured is considerably superior here to what it is elsewhere on the average. Taking 100 as the norm for the country over, we find that approximately 75 per cent of our 6A pupils are above this norm. Our pupils, however, are not equally superior in all subjects. In language usage their superiority in achievement is most prominent while in spelling it is least. Accomplishment in arithmetic is comparatively low, taking a place next to spelling in this respect. In no subject, however, does the median achievement quotient fall as low as 100.

Scholastic Records and Personality Traits

Chart XII points out the relation of scholastic records to the personality traits of pupils? During the past five years a carefully devised scale for habits, attitudes and interests of pupils has been used throughout our secondary schools. According to the plan in operation each pupil is rated on each of the traits of the scale by each of his teachers. This makes possible a composite rating each year based on the independent judgments of five or six teachers. The ratings used in Chart XII are based on ten or twelve judgments each. It is interesting to note that the higher we go in the levels of scholastic achievement the higher is the percentage of pupils rated superior or very superior on these traits, the correlations ranging all the way from 0.11 to 0.61. Other details may be studied in the chart.

Final Task Is One of Dissemination

The twelve charts that illustrate this article indicate something of the method of making research findings meaningful. They evidence, we think, the compactness that may characterize the presentation of scientific data. In connection with each, however, a fuller description is necessary if the content is to be adequately understood. But after the findings have been properly charted and described, there still remains the important task of dissemination. From this point on, the responsibility falls upon the administration. Through the superintendent and his administrative corps arrangements should be made whereby the practical findings of investigation and research may find their way to all who are in a position to use them constructively. Some of the findings should be brought to the board of education, some should go to the principals, supervisors and directors, some to the teachers and many should go directly to the patrons of the schools. Only through an organized system for the adequate dissemination of facts can a bureau of administrative investigation and research become effective.

Some Limitations of Educational Measurements

Five limitations of educational measurements are set forth in the *School Executives Magazine* by John W. Harbaugh, graduate assistant in history and principles of education at the University of Pittsburgh, as follows:

1. The tests do not measure interest or effort. A child may be lazy, ill, excited, angry or wholly indifferent to the task before him. To draw conclusions from the results of this test alone would be highly dangerous.

2. It is not known as yet what the child is expected to accomplish in certain subject fields or activities in which he engages. A test may be made and accepted before we know what we are supposed to measure.

3. Units of measure on the same test or on different tests for the same material are not equal and comparable. To say a child with a score of fifty points on given tests has performed five times as well as a child who received ten points on the same tests, or on an equivalent test in the same field, is going beyond the facts.

4. Present measuring instruments are limited in that it is impossible to establish "zero points"—starting points from which to measure. The fact has made it necessary to establish a method by which the child is measured in relation to the performance of the group or of the typical child for his age and grade in the particular thing being measured. Consequently, any given score on a test has but little meaning until one knows what the group of children or the typical child has scored on the same test.

5. Since the units of measure may not be alike, due to difficulty of material, objectives of teaching, methods of teaching and so on, it is highly fallacious to compare results of one test with those of another until the tests have been properly equated.

Spreading the English Language by Means of the Talkies

That English will in time become the universal language due to the influence of the talking pictures is the prediction made by Viggo Cavling, editor of *Politiken*, the leading newspaper in Denmark, who recently arrived in this country. An amazing interest is being displayed abroad in the American talkies, Mr. Cavling said. Now that the talkies are available in so many Danish towns, the citizens are interested in reviewing their knowledge of English.

A School That Is Admirably Planned for Present and Future Needs

Benjamin Franklin School, Binghamton, N. Y., is now used as a full grade elementary school; later it is expected to be used only for the kindergarten and the first six grades

By GEORGE BAIN CUMMINGS, Conrad & Cummings, Associated Architects, Binghamton, N. Y.

THE Benjamin Franklin School of Binghamton, N. Y., a city of 80,000 persons, has been in use for one school year. It was designed as a full grade elementary school to serve one of the districts of the city. For the time being and for a few years to come, the kindergarten and the first eight grades will be cared for in this building.

When, in the future, the educational system has been expanded in all parts of the city to provide for the seventh, eighth and ninth grades in junior high school buildings, the classes in the Benjamin Franklin School will comprise only the kindergarten and the first six elementary grades. The rooms for manual training and home making in the building at that time will be used as standard classrooms, and the manual training and home making classes will be transferred to a junior high school.

The Benjamin Franklin School is a forty-room building in which provision has been made for a branch public library, a well baby clinic and a separate school for anemic children. There is one other school for anemic children in the city

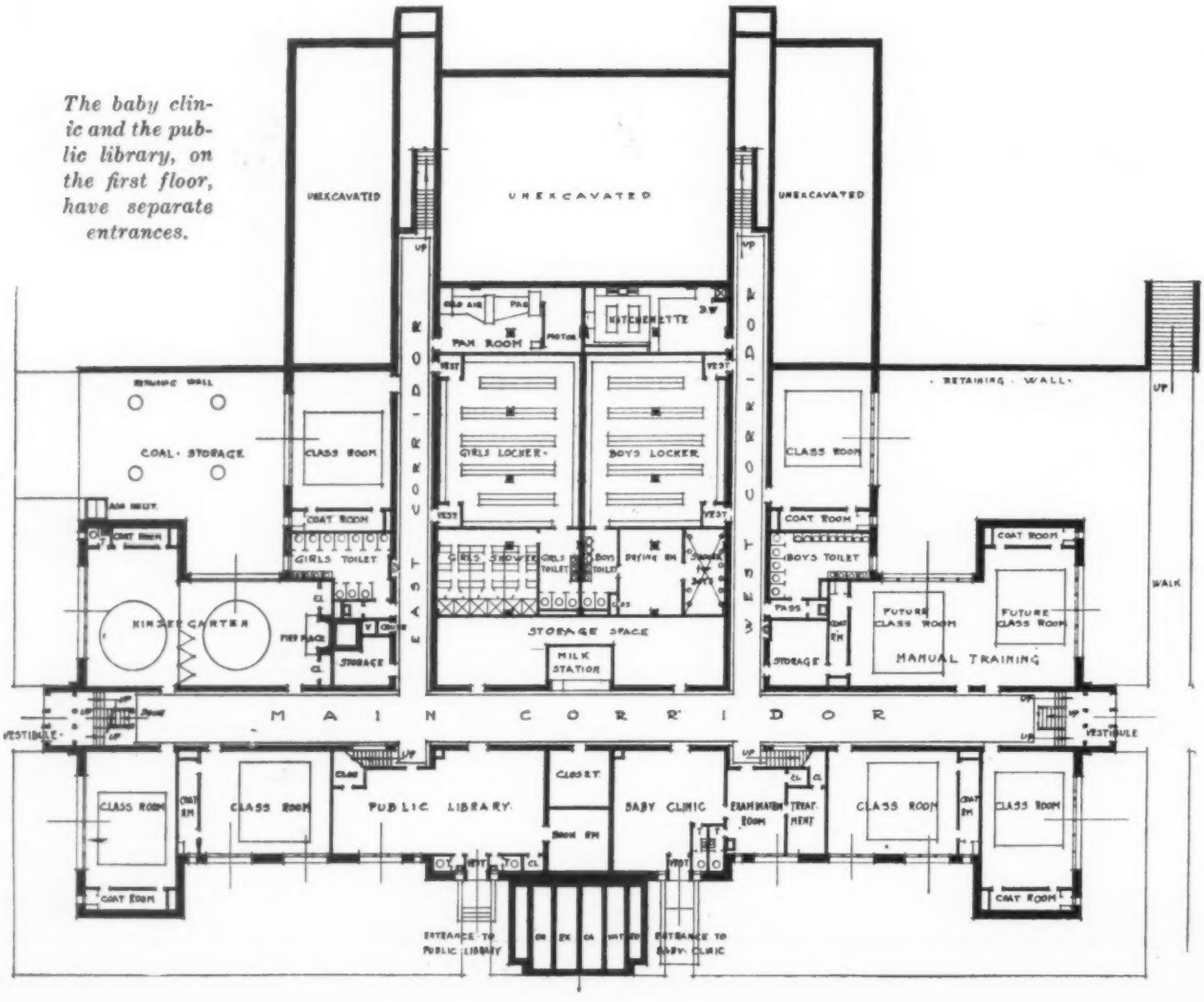
Smooth red brick with buff concrete trim give an appearance of light and warmth to this school building.

and the two assume the care of all the city's anemic children.

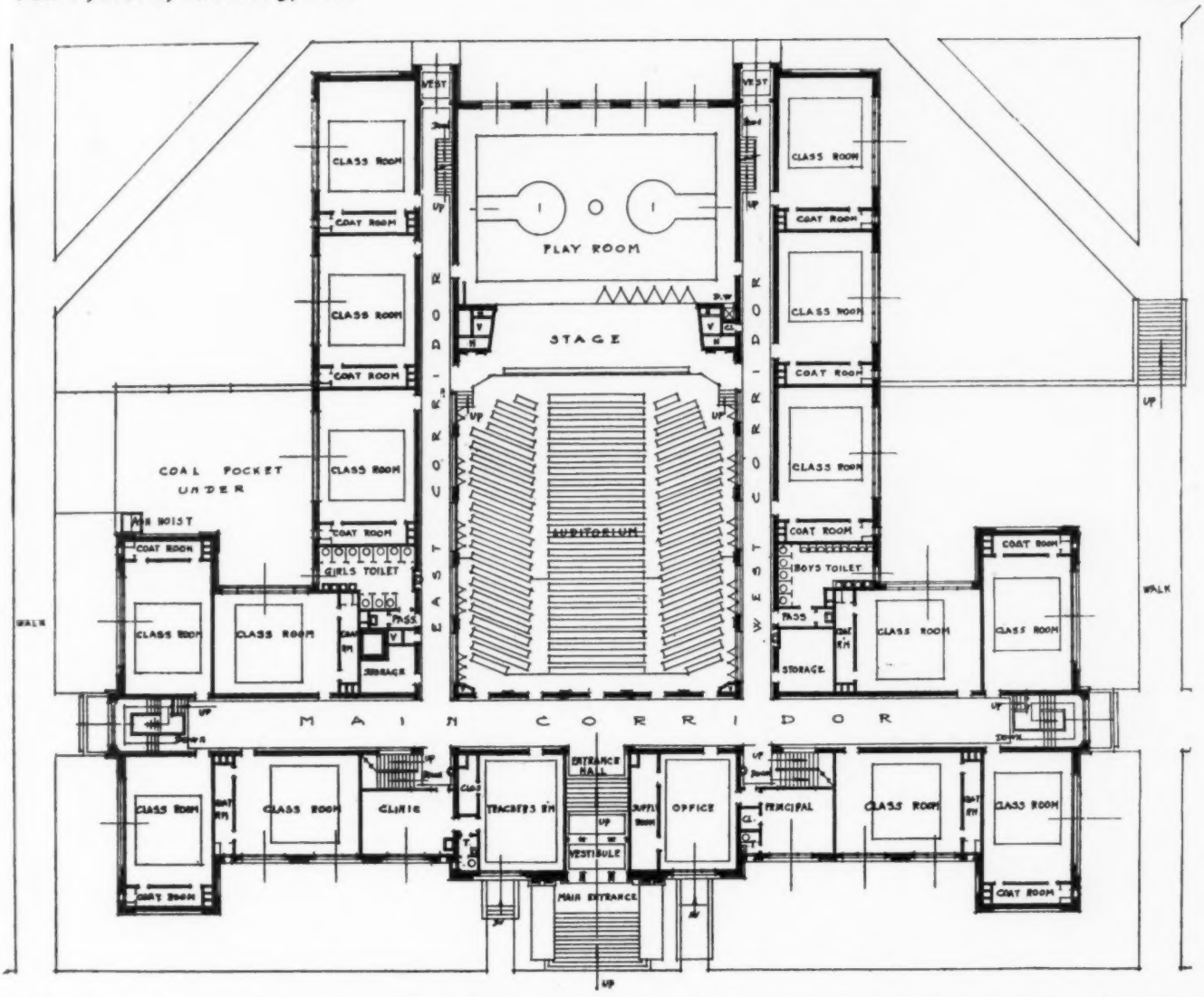
The site covers eleven acres on a hillside, and fronts on a main avenue of a residential portion of the city. The property faces the north and slopes up from north to south, terminating at the rear and highest part in a steep and thickly wooded area, the natural topography of which has made possible the construction of an athletic stadium with the seats arranged along the hillside. In addition to the main approach at the front of the property, there are secondary approaches from two streets on the west, one on the southeast and a right of way from the main street. The building faces the north, the architects having accepted the central axis of the frontage on the main street as the principal axis of the building and placed the secondary axis on one of the two streets terminating at the property line on the west. The service entrance is approached from the street on the southeast.

Entrances for the general public to the school, to the branch public library and to the well baby clinic are provided from the main street around the principal axis. Entrances for the school children are at the east and west ends of the secondary axis, with two other entrances on the rear of the building connecting with the streets on the southwest and southeast. Because of the natural slope of the land, there is a difference in level of approximately twelve feet between the rear and front lines of the building. The architects, therefore, made the front portion of the building three stories high and the rear portion two stories high, adding a partial additional story on the south over the two-story portion. This made it possible to place the playroom on the south side of the building on a level with the playground, which extends south of the building, and at the same time on a level with the stage of the auditorium, keeping the auditorium on the second floor of the front portion of the building.

The style of architecture chosen copies that of the time of Benjamin Franklin, for whom the school was named. A smooth red brick in varying shades provides a wall that gives an appearance of light and warmth despite the fact that the front of the building faces the north and does



The baby clinic and the public library, on the first floor, have separate entrances.



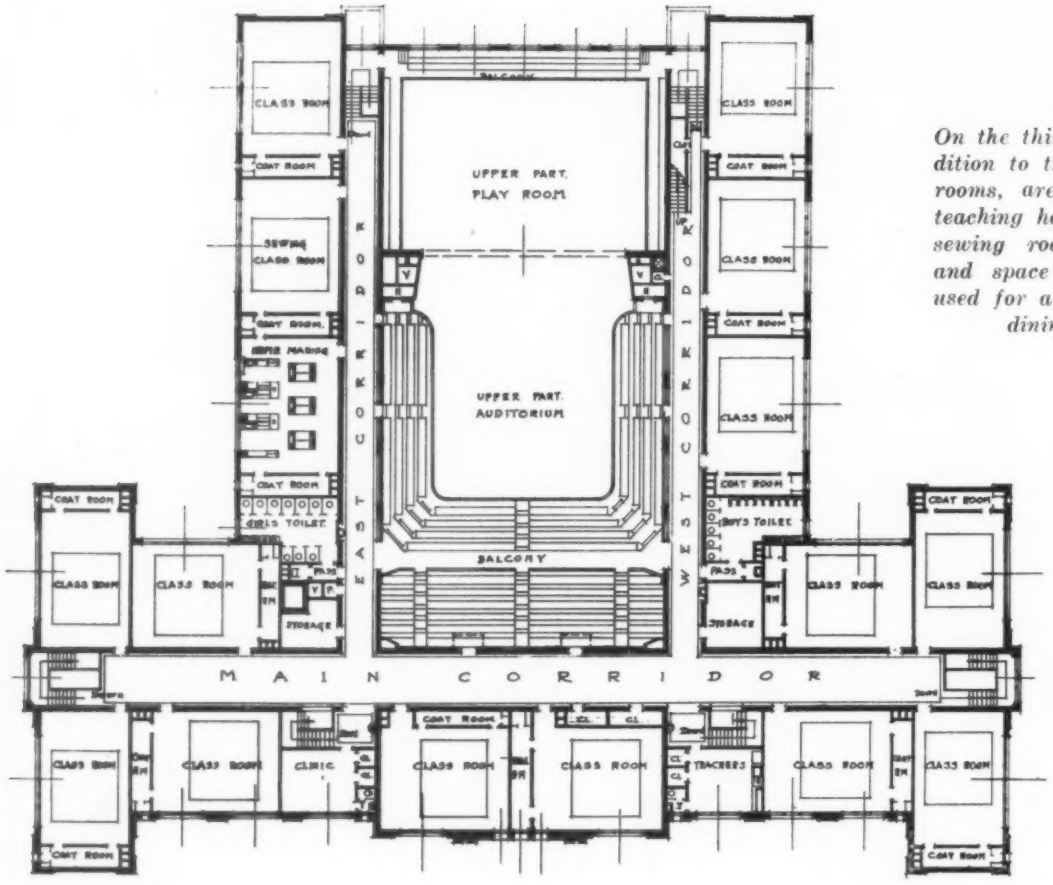
This plan of the second floor shows the advantageous location of the spacious auditorium and the playroom.

not receive the sunshine during a large portion of the year. A cast concrete of warm buff color was chosen as a facing for the lower floor to provide enrichment for and contrast to the brick work. The window shades are of ecru. The trim of the doors and the windows, except doors of the pupil entrances, are finished in warm ivory. The entire color scheme, therefore, is warm and sunny.

How the First Floor Is Arranged

The branch public library, and the well baby clinic are on the first floor, the level of which is one foot five inches below grade, at either side of the broad approach to the main entrance. The approach to the baby clinic is by means of a ramp, which permits baby carriages to be taken into the building. In the center area under the auditorium are the boys' and girls' locker rooms, showers and toilets. The stairs at the south ends of the cross corridors provide a ready passage from the locker rooms to the playroom on the floor above or to the playground at the rear. The shower and drying rooms are tiled as are the floors of all toilets throughout the building. The toilet, shower and dressing compartment partitions are of metal. The principal boys' and girls' toilets are out of sight of each other on the cross corridors near their intersection with the main corridor on each floor. Each toilet is provided with a vestibule.

The kindergarten rooms are also on the first floor. The southeast corner is used, and the two standard rooms are separated only by a folding partition. The windows of these two rooms are made of an ultraviolet ray transmitting glass. A fireplace for gas or electric installation and an infants' toilet room are in this suite. The boiler room and mechanical plant are directly under the kindergarten rooms, the floors of which are especially insulated against the heat. In connection with the boiler room are: an electrical transformer room; an electrical meter and distribution room; a room for the baling of waste papers,



On the third floor, in addition to the usual classrooms, are facilities for teaching home making—a sewing room, a kitchen and space that may be used for a demonstration dining room.

which are delivered to the basement by means of a chute with hopper doors opening on each floor; a mechanical lift for removing ashes; a large coal storage space under a driveway in the courtyard above, a janitors' toilet, shower and locker room.

Other special provisions on the first floor include: a manual training room consisting of two standard classroom units and a storage room for material; a kitchenette for the use of the Parent-Teacher Association—a dumb-waiter opens on the playroom above where 300 persons may be served, and extends to the anemic children's school on the top floor; a fan room containing the ventilating equipment for the auditorium and the playroom; a classroom without the customary furniture, which is now being used as a meeting room for the boy scout troop of the school; a milk dispensing station where children whose parents so desire are served with milk during the school day.

The rest of the first floor is given over to standard classrooms, each of which is equipped with the usual blackboards, tack boards, a bulletin board and a coat room with a pair of double acting doors, ample clothes hanging space and special closet for the teacher. This teacher's closet is separated from the rest of the coat room by a wire mesh partition through which the light from the window extends to the entire coat room. Within this closet, the teacher has a locker for her clothes and a bookcase and cupboard for classroom supplies. The gate in the wire partition is equipped with a lock.

Six flights of stairs lead to the floors above, these being placed at each end of the main corridor and at each end of the east and west corridors. On the second floor there is an additional flight of stairs at the main public entrance.

Playroom Seats 150 Persons

The auditorium is on the second floor, with its balcony at the third floor level. It contains 1,200 seats. The rear third of the main floor of the auditorium is sloped, but the remainder of the floor is level and is equipped with movable seats so that the floor may be used for dancing or other activities. Ample space is provided for the school orchestra in front of the stage apron. The stage is on the main floor level, thirty inches above the low level of the auditorium floor, permitting exit doors to the corridors on each side. The playroom is on the level of the stage and in the rear of it, being separated from it by a folding partition of almost the full height and width of the stage. This permits the entire stage and playroom to be used as a floor for drills, pageants and games. The playroom, which is the size of a reg-

ulation basket ball court, contains seats in the balcony for 150 persons, while in the auditorium most of the seats afford a view of both baskets, which means it is possible for nearly 1,000 persons to witness satisfactorily a basket ball game or other entertainment.

Acoustics Are Excellent

The auditorium is separated from the side corridors by folding casement windows which make it possible for persons in the corridors to see and hear what is going on in the auditorium. Portions of the auditorium walls and ceilings are covered with a preparation that affords acoustical correction. The folding partition at the rear of the stage is constructed with a metal interlining so that the whole stage acts as an amplifier to reflect sound from the stage into the auditorium, while the acoustical correction does away with any echoes or other unpleasant sound effects. The auditorium is equipped for radio reception and for picture projection by means of a projection booth at the rear of the balcony.

The administrative rooms are grouped at the front around the main entrance, and consist of public and private offices, a supply room, a teachers' room, a first aid room and clinic and toilets. Four drinking fountains are conveniently placed in the east and west corridors. Each vestibule at the rear of these corridors also has a fountain for use in connection with the playground at the rear of the building. Drinking fountains are found on each of the floors in similar locations.

On the third floor are rooms for the teaching of home making. These rooms consist of a sewing room and a kitchen with a space between which has been developed as a demonstration dining room. A teachers' room and a dental clinic are also on this floor. The inside dark spaces on each floor are used as storerooms.

Special Care for Anemic Children

Because the playroom on the second floor is of less height than the auditorium, the anemic children's school has been placed over it. It has south and east exposures and is protected on the north by the gable roof over the auditorium. In this school care is given during eight hours of the day to children of backward physical development. Here they have their classroom instruction, eat hot meals, receive between-meal nourishment, take naps, and exercise and play under the most healthful conditions possible. The classroom contains twice as much glass exposure as the standard classrooms in the building, and the glass used is the kind that transmits the ultraviolet rays of the sun. The solarium is completely uncovered for two-fifths of its area. The remaining three-fifths is roofed over, but it is entirely open on the south side and has adjustable windows on the east side.

In the storeroom opening off the solarium, folding cots, bedding, sweaters and robes are kept, so that the children may have regular naps in the open air. The lunch room is served from a small kitchen into which the dumb-waiter extends from the first floor. Boys' and girls' toilets, a drinking fountain and a standard coat room complete the equipment of this school.

In general the construction of the building is fire resistive. The walls are of brick veneer backed up with cinder concrete blocks. The floors are concrete, supported on bar joints. The floor covering is mastic, except for the stage of the auditorium, which is maple, and for the toilet rooms, which are tile. The mastic was applied hot to a thickness of five-eighths inch and a colored top covering was applied cold to a thickness of one-eighth inch. Blackboards are of natural slate. Tack boards and bulletin boards are made of compressed cork. Metal trim has been used throughout with the exception of the interior doors, which are of wood. Windows are metal casement windows with the sash bars installed in accordance with a special design of the architects.

Vacuum Steam Heating System

The heating system is vacuum steam. All classrooms and other principal rooms contain, in addition to direct radiation, a heating and ventilating unit. The exhaust flues are placed in the ceilings of the coat closets, the air passing from classroom to coat closet under the coat room doors, which are set one foot above the floor. The auditorium is heated and ventilated by a plenum system augmented by direct radiation. The toilets, locker and shower rooms are ventilated by motor driven fans. All heating and ventilation are automatically controlled by a temperature regulation system.

The building is equipped with an electric clock system and fire alarm system, and an intercommunicating telephone system. The building cost $473,284.29, exclusive of furniture. The cost was divided among the following items: general contract, $377,484.94; heating contract, $59,262; plumbing contract, $19,381.35; electric contract, $17,156. It contains 1,224,907 cubic feet, the unit cost being thirty-eight cents. The structural design was made by Warren W. Chapin, New York City, the architects' structural consultant. The heating and ventilating system was designed by A. R. Acheson, Syracuse, the architects' mechanical consultant.

Vocational Guidance Aims and Their Application in Small Schools

A tentative administrative organization for a school system, with special reference to vocational guidance services in the public schools, is presented in this study

By W. W. HIELD, Director of Vocational Information, Green Bay Public Schools, Green Bay, Wis.

IT IS an axiom of business and industry that if an expert executive is to function successfully in any position, his duties and the scope of his responsibilities must be thoroughly defined, established and definitely accepted by the persons to whom he is responsible, those who are responsible to him and those with whom he comes in contact.

Cubberly says, "Each head of a department in a well organized school system will conduct the affairs of his department without interference on the part of the superintendent but in cases of friction or conflict of authority the superintendent should be the coordinating head. The activities of the departments so overlap that this is virtually necessary."[1] To assure the success of any endeavor then, it is essential to organize and administer an acceptable program of vocational guidance, that the functions and scope of the responsibilities of the executives may be clearly outlined and a thorough definition of them given. Charts I, II and III set up the relationships of the administrators concerned with vocational guidance to each other and to the chief executive.

[1]Cubberly, Elwood P., Public School Administration, Houghton-Mifflin Company, Boston, p. 174.

Formulating a Plan of Procedure

This article is an attempt to establish by the use of charts desirable relationships for vocational guidance services in the public schools. Efforts to formulate a plan of procedure in any school undertaking should be organized in terms of the stated policies of the school administration and should achieve four objectives: (1) a clear statement of the plan, (2) its relation to policy, (3) evidence upon which its selection and its organization are based and (4) a technique for determining the effectiveness of its operation.

The four charts that accompany this article are

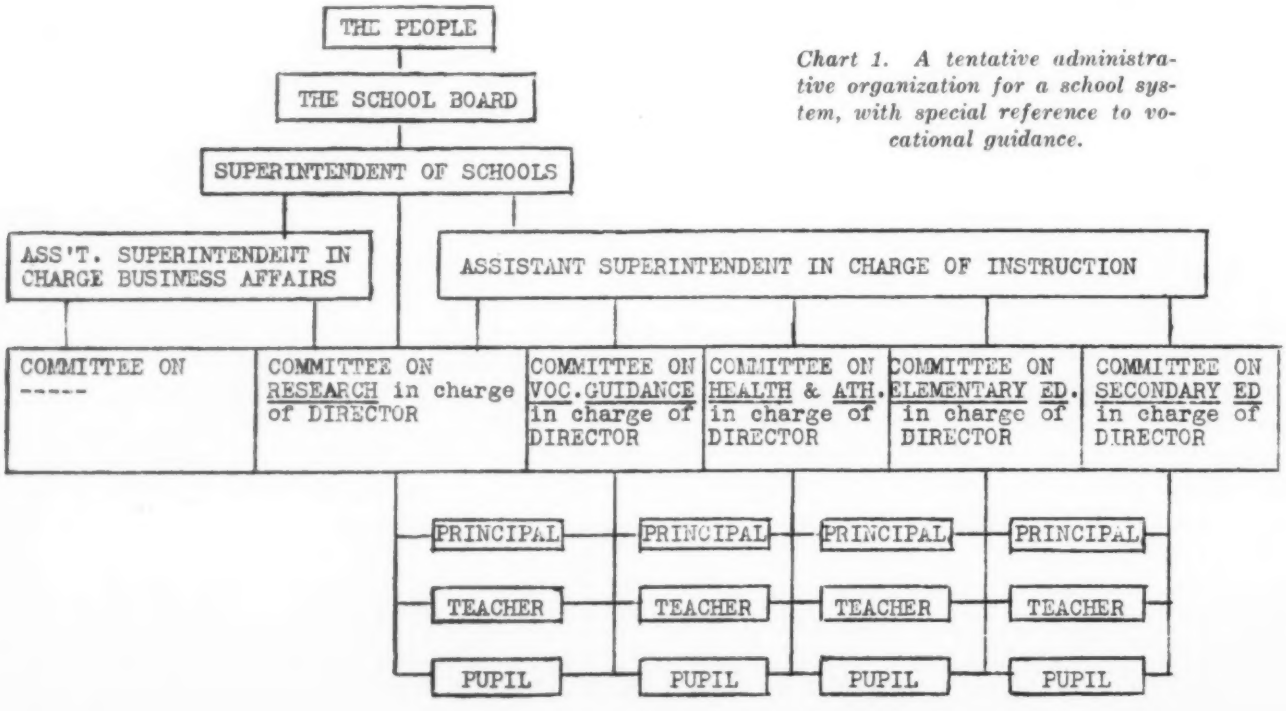


Chart 1. A tentative administrative organization for a school system, with special reference to vocational guidance.

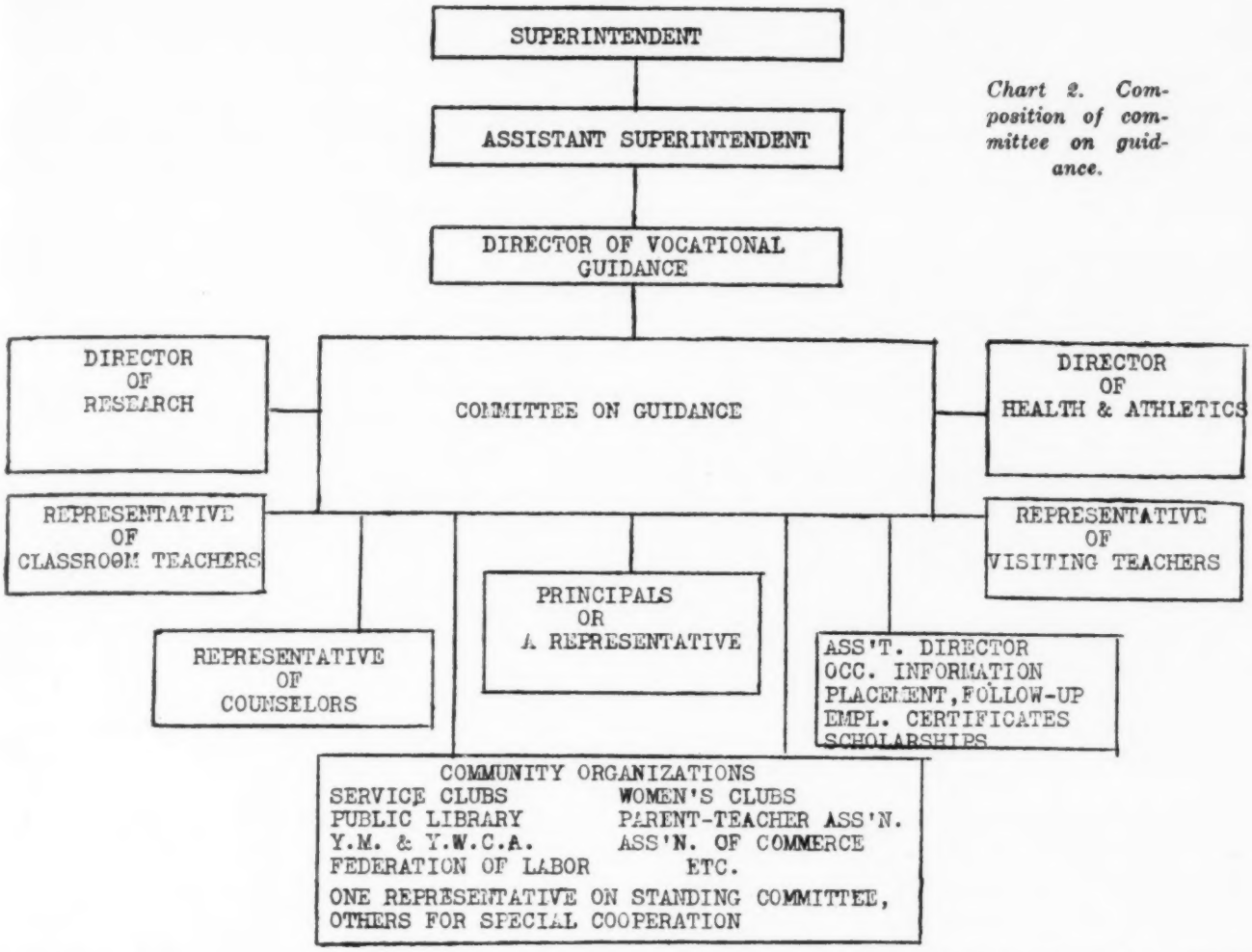


Chart 2. Composition of committee on guidance.

a graphic attempt to present the first objective —a clear statement of the plan.

Since the policies of most schools include some statement of the cardinal principles of education as set forth by the Commission on the Reorganization of Secondary Education,[1] it may be held that guidance activities comprise one of the most hopeful avenues for the achievement of vocational aims.

Purposes of Vocational Guidance

A clear statement should be made of school policy under which any proposed vocational guidance plans may be contemplated or authorized. Section 3 of "The Principles of Vocational Guidance" as formulated and adopted by the National Vocational Guidance Association states that the purposes of vocational guidance work are: (1) to assist individuals in choosing, preparing for, entering upon and making progress in occupations; (2) to give a knowledge of the common occupations and of the problems of the occupational world so that pupils may be prepared for vocational as well as political citizenship; (3) to help the worker to understand his relationships to workers in his own and other occupations and to society as a whole; (4) to secure better cooperation between the schools on the one hand and the various industrial, commercial and professional pursuits on the other hand; (5) to help adapt the schools to the needs of the pupils and the community and to aid the pupil in obtaining the equality of opportunity which it is the duty of the public schools to provide.

The evaluation of the plan in terms of the second objective in its formulation—its relation to policy—rests upon its effectiveness as a means of achieving these aims.

Objective Evidence Lacking

The third objective, evidence upon which the selection and organization of this tentative plan for the administration of vocational guidance are based, will be found in the references on the organization and administration of vocational guidance listed at the end of this article.

The last objective which should result from efforts to formulate any plan—the statement of a technique for determining the effectiveness of the

[1] U. S. Office of Education Bulletin, 1918, No. 35.
The seven cardinal principles are health, command of fundamental processes, worthy home membership, vocations, citizenship, worthy use of leisure and ethical character.

operation of the plan—lacks any considerable amount of objective evidence as to its validity. Under the research activities as set up, however, it is contemplated that a number of critical determinations would be made. The following are suggested:

Critical Determinations

1. Inasmuch as accurate and sufficient occupational information is ordinarily considered a prerequisite to sound choice of a vocation, new form examinations might be constructed and administered to determine the effectivenes of the presentation of occupational information.

2. Since the life career motive, sound choice and effective guidance should result in a more rational selection of, preparation for and accomplishment in school courses and vocations, comparisons might be made from the cumulative records to show the relation of: (a) the total scholarship of pupils who have had the advantages of the guidance service as against an equated check group who had not had these advantages; (b) the completeness of preparation for and compliance with specific college entrance requirements in similarly equated groups, one with and one without the assistance of guidance; (c) the distribution of occupational choices in a group of guided pupils (that is, pupils given the advantages of guidance service but in no sense directed) and of unguided pupils compared with the normal actual occupational distribution of persons of equal mental ability and otherwise equal school opportunity.

3. A more immediate forecast as to the probable effectiveness of the operation of the plan, one that is quite convincing to many people, might be secured by submitting it for evaluation and criticism to authorities in educational administration, to vocational guidance instructors and to administrators of vocational guidance.

4. Per pupil costs calculated for this form of organization as compared with other types of organization would be worth while if the service rendered in both cases could be held constant or brought into the evaluation.

Applications for the Small School System

Students of education who are thinking in terms of guidance are aware of the urgent need for its development in the smaller schools. Periodical literature contains some descriptions of commendable attempts to give vocational guidance service in small schools where specialization such as is found in large schools is impossible. However, these small schools, if they are consistently endeavoring to cover the other aims of education, will eventually suffer the handicap of lack of specialization in other lines as they seem to now in the matter of vocational guidance.

The present plan should be of assistance to the individual who is adaptable to the generalization

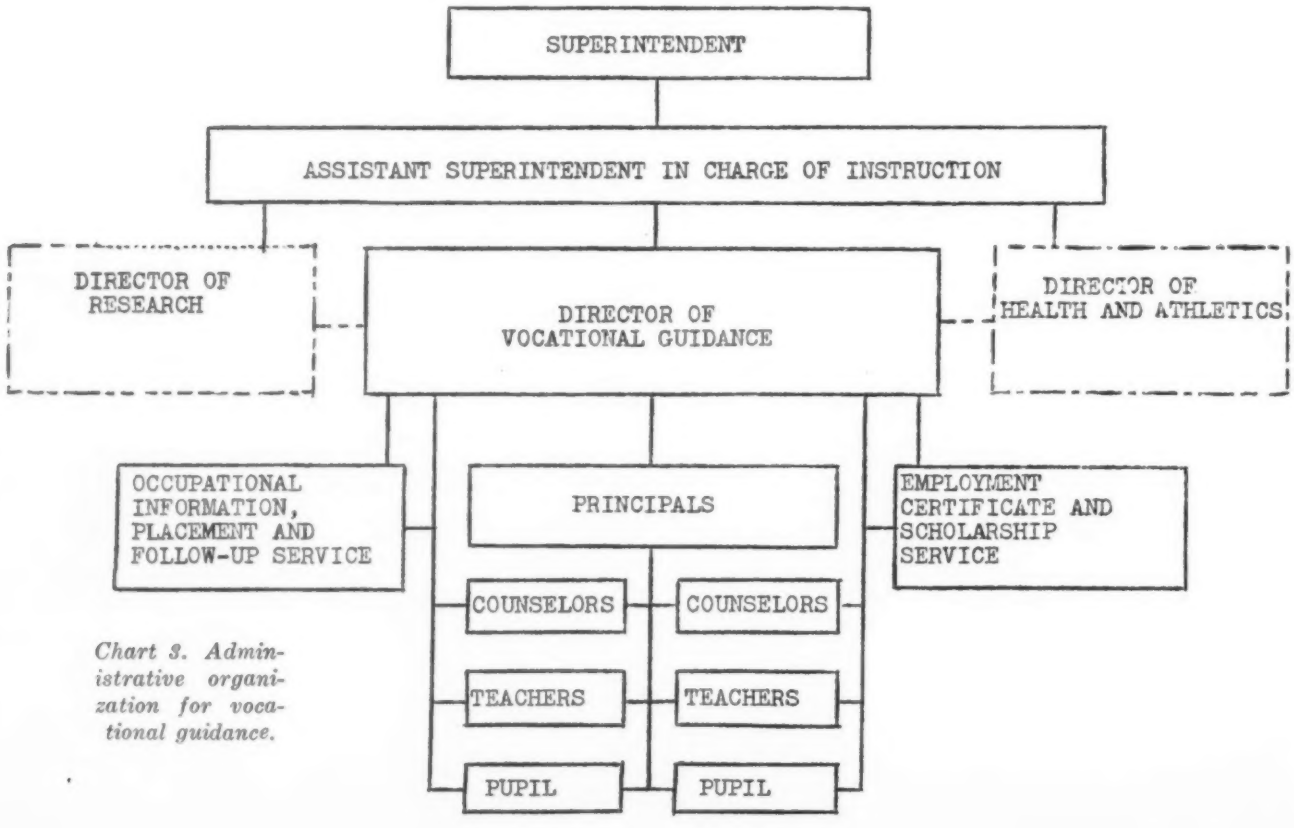


Chart 3. Administrative organization for vocational guidance.

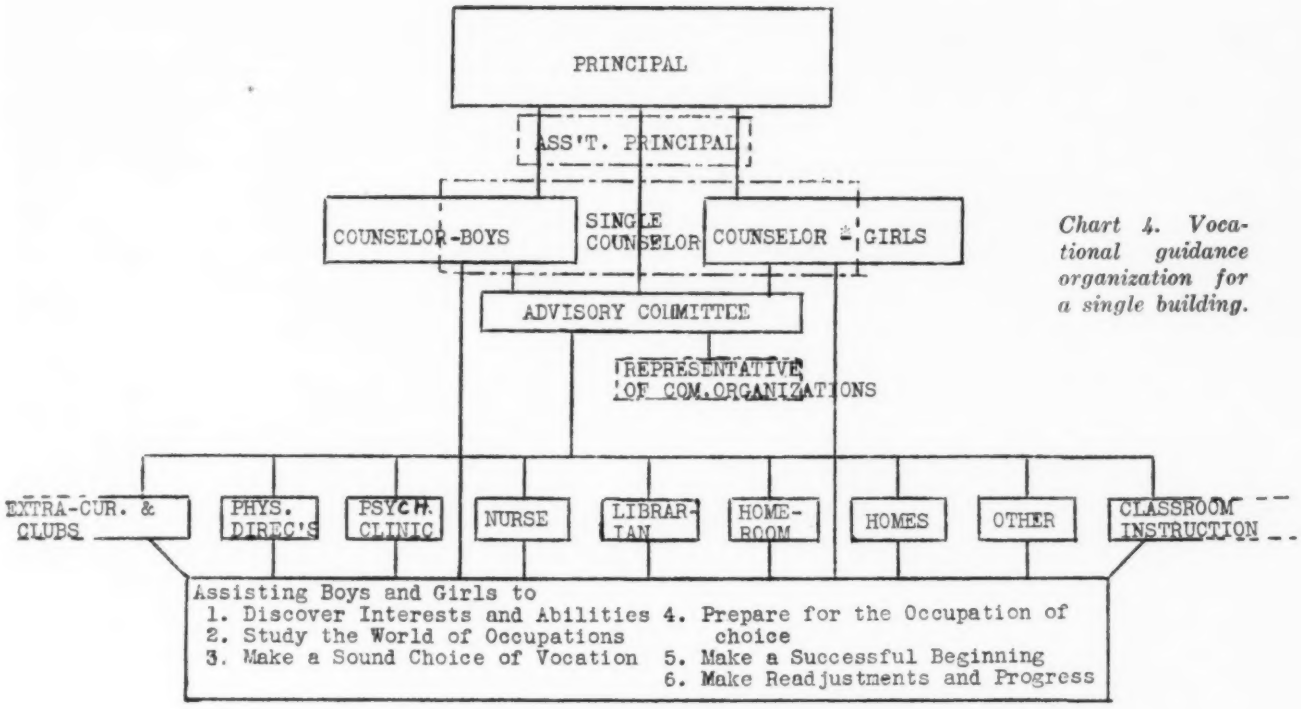


Chart 4. Vocational guidance organization for a single building.

demanded of the teacher of the Mark Hopkins variety. Such a teacher will find herein an analysis of the services to be performed. In his endeavor to meet the challenge he will avail himself of the occupational literature developed by the larger schools and of the resources of the local, county and state libraries. In some states, particularly in Wisconsin, the university extension divisions are rendering excellent service to schools by loan collections of occupational information literature and books on vocational guidance.

In the analysis of the various guidance duties, this article does not attempt to offer any suggestions as to the number of persons required for the staffing of the guidance services. An analysis chart that shows the number of persons required for staffing organizations serving different sizes of school population would perhaps be helpful, but such a chart cannot be constructed with any degree of confidence without more adequate data as to the staff requirements in present practice than are now available. It is suggested that any endeavor to adapt the present organization should be made in terms of the functional divisions rather than in terms of pay roll positions. These functional divisions might be telescoped for the small community so that one individual might perform the duties of two or more divisions. In very large systems, several persons might be required to perform a single function.

Jorgenson says, "Supervision and instruction cannot be carried on effectually without information that can be had only as a result of wide and exhaustive studies of the factors involved. Pupils must be classified properly, properly adjusted to curricula and kept moving through their courses at their own best rates. We must know the intelligence of children, their physical conditions, their social heredity and their home life. We must know the progress they have made in their studies and the lines along which their latent and best achievement lies. We must know about absences, about leaving school and about the size of class groups. We must know the worth of our teaching methods, the meaning of our class marks and how to make the adjustments needed to put each child under the very best instruction."[1]

According to a bulletin issued by the U. S. Office of Education, "So complex have city school systems become, especially those of medium and large sized cities, that superintendents of schools cannot themselves collect and compile the data needed for their own and the school board's guidance. As a consequence, many boards of education in large and some boards in the small cities have organized departments or bureaus of educational research to collect and compile data regarding practically every phase of their respective school systems."[2] A tabulation of activities published in 1923[3] showing the frequency with which each was stated as an activity of the

[1] Jorgenson, The Necessity for Research in Education. The School Board Journal, August, 1926, pp. 41-42.
[2] U. S. Office of Education, City School Leaflet No. 5, 1923, Research Bureaus in City School Systems.
[3] U. S. Office of Education, City School Leaflet No. 14, 1923, Organization of Research Bureaus in City School Systems.

known research bureaus in the United States disclosed that the following eight were most frequently mentioned: testing (mental and educational); surveys and statistics; classification of school children; supervision of special classes; educational guidance; vocational guidance; record forms; curriculum making. It is more than a coincidence that each of these most frequently attempted research activities is a direct contribution to the accomplishment of the aims of guidance. Consequently, the important position accorded research in the proposed plan is indeed justified.

References

Charts of Proposed Vocational Guidance Organizations:
Myers, George E., The Problem of Vocational Guidance, The Macmillan Company, New York City, 1927, Chart I, p. 204.
National Association of Secondary School Principals, Organization of the Secondary School for Guidance, Bulletin 19, January, 1928, p. 8.
Pennsylvania Department of Public Instruction, General Bulletin on Guidance, 1927.
Payne, Arthur F., The Organization of Vocational Guidance, McGraw-Hill Book Co., New York City, 1925, pp. 221-24.
Charts of Actual Vocational Guidance Organizations:
Twenty-Third Year Book of the National Society for the Study of Education, Part 2, Vocational Guidance and Vocational Education for the Industries, Public School Publishing Co., Boston, p. 65, Detroit, pp. 76 and 79.
Children's Bureau Publication 149, Vocational Guidance and Junior Placement, U. S. Department of Labor, Minneapolis, p. 299, Pittsburgh, p. 269, Chicago, p. 158 and Oakland, p. 416.
Readings on Organization and Administration of Vocational Guidance for City Systems:
Edgerton, A. H., Developing a Comprehensive Program for Educational and Vocational Counseling, National Association of Secondary School Principals, Bulletin 19, January, 1928, pp. 47-67.
Myers, George E., The Problem of Vocational Guidance, Chapter 10, Organization and Administration of a Comprehensive Program of Vocational Guidance in a City School System.
Payne, Arthur F., Organization of Vocation Guidance, McGraw-Hill, 1925, Chapters 9, 12 and 13.
Pennsylvania, Bulletin on Guidance, Guidance Organization for a City School System, pp. 24-29.
Readings on Organization and Administration of Vocational Guidance for Smaller Communities:
Pennsylvania, General Bulletin on Guidance, Guidance Organization for Township and Borough School Districts, p. 29.
Myers, George E., The Problem of Vocational Guidance, Chapter 12, Vocational Guidance in Rural Communities.
Activities of a Vocational Guidance Program and Duties of Vocational Guidance Workers:
U. S. Office of Education, Vocational Guidance in Secondary Education, Bulletin No. 19, 1918, p. 16. Vocational Guidance Program Recommended.
U. S. Office of Education, Vocational Guidance and the Public Schools, Bulletin No. 24, 1918, p. 82, A General Guidance Plan.
Payne, Arthur F., Organization of Vocational Guidance, Chapters 14 and 15.
Pennsylvania, General Bulletin on Guidance, Agencies and Methods in a Guidance Program, p. 30.
May Rodgers Lane, Classified List of Duties of the Vocational Counselor in Schools, The Vocationist, June 1928, pp. 3-11, Oswego State Normal School, N. Y.

Advice to Teachers Concerning Investments

An editorial in the *North Carolina Teacher* warns teachers concerning the investment of their savings in wildcat schemes that promise large and quick returns.

"Probably few teachers were caught in the stock market crash," the editorial says. "This is no compliment to the better judgment of the teachers, but rather a plain statement of the fact that few teachers had sufficient funds to invest in securities listed on the stock exchange. Had they had the money, they would have been caught, in all probability, in the same fix that thousands of others were when the stock exchange took its nose dive."

The editorial offers the following suggestion for those members of the teaching professions who are inexperienced in investing:

"Never make an investment without asking your banker about it or asking someone not interested in the sale of the investment offered. Bankers are always conservative, but their advice is usually sound. You are not likely to lose money invested in securities recommended by a banker.

"Do not buy on margin unless your reserve cash or credit is large enough to take the stock up at the price you agreed to pay should the bottom fall out of the market. The majority of teachers are not financially able to do this. Margin buying is the other fellow's game. Mighty few persons are lucky enough to beat the other fellow at his own game.

"Do not buy stock in unknown concerns. A great many of these are all right, but the teacher has neither the facilities nor the time for investigating their financial resources in order to determine their soundness as an investment."

How Much Does the Average College Teacher Earn?

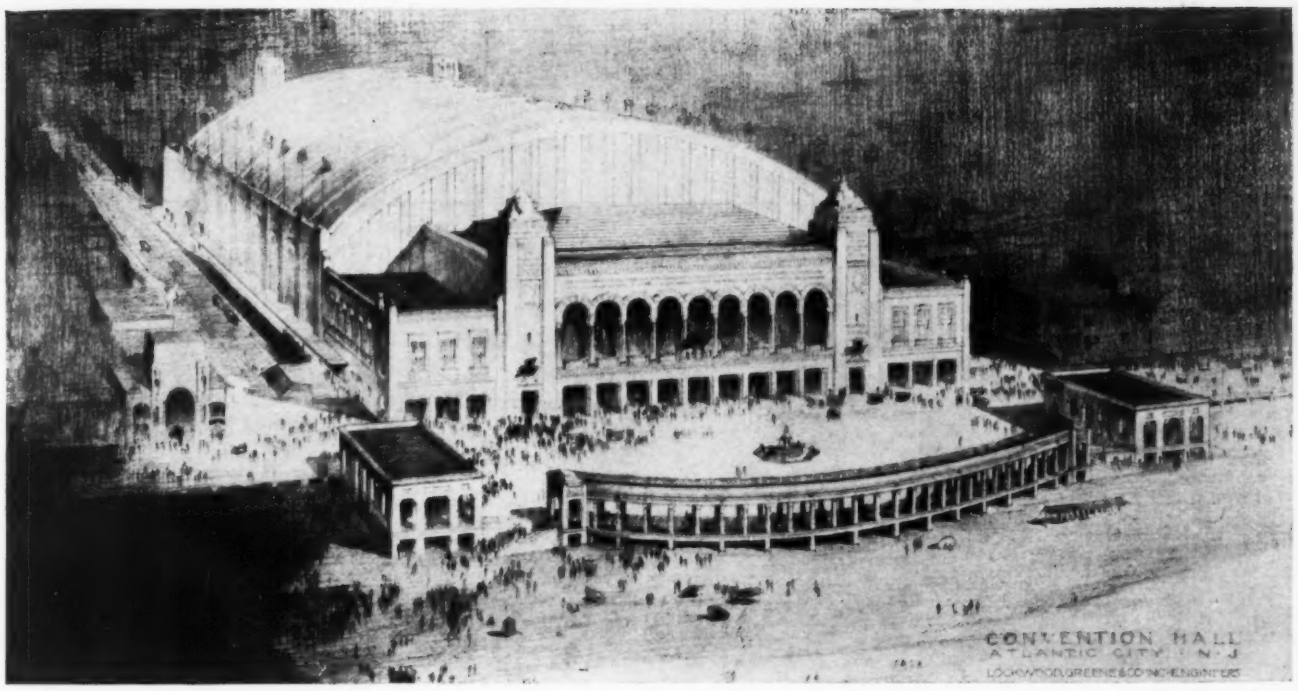
How much does the average college teacher earn?

The General Education Board of the Rockefeller Foundation has collected data on the earnings of college teachers in 302 colleges or departments of universities from all parts of the country. These data cover the salaries of more than 15,000 liberal arts teachers ranking from professors to instructors for the year 1926-27.

The average annual salary for these teachers was $2,958. The New England states rank highest, the Southern states, lowest. Professors earned an average of $3,798 and instructors, $1,941. The highest average salary was in law schools, the lowest, in music schools.

Of the more than 15,000 teachers reporting, 92 per cent received salaries of less than $5,000, and only 0.01 per cent, or sixteen teachers, receive $10,000 or more. Teachers supplement their earnings in various ways, such as writing, extra teaching, lectures and consulting. The supplementary earning of 7,702 teachers amounted to 24 per cent of their annual salaries.

The study, while it shows that the average annual salary of teachers has risen from $1,724 in 1914-15 to $2,958 in 1926-27, shows also that salaries still remain inadequate.



This immense auditorium will be the scene of practically all the sessions of the Department of Superintendence.

Many Features Planned for Meeting at Atlantic City

IRRESPECTIVE of competition and the fickle mind of the general public, Atlantic City still remains the most popular summer and winter resort in the United States or Canada. Of virtues it has many, and of faults it has a few. In spite of the press agent's superfluous superlatives and hackneyed phrases Atlantic City should be visited by every citizen of the United States not once but often, if possible before the excursionists from Philadelphia and Reading, Pa., flock down to the beach in the summer months. Easter is a pleasant season in Atlantic City but again the crowds are apt to send one away with a bad impression. February, however, is ideal, for at that time of the year the crowds are not too dense, the fakirs and auctioneers have not yet spread their nets for the unwary, the hotel rates are within reason and the weather is usually superb. Hence it will be seen that those attending the meeting of the Department of Superintendence, which will start on February 22 and last until February 28, are in great luck.

Besides having the largest auditorium in the world, where the convention will be held, Atlantic City has the longest board walk in the world, the largest number of hotels of any similar resort, 1,200 in all, and it entertains more people than any city in the United States, with the possible exception of New York City.

The elaborate program of entertainment that has been planned by the guiding spirits of the Department of Superintendence will be enhanced by the setting that has been chosen. Among the main features will be the exhibitors' banquet, which has come to be one of the outstanding events of the meeting. This year it will be held at the Hotel Chelsea, only a few blocks from the auditorium, on the board walk. Tuesday evening has been selected for this event, the feature of which will be the third annual presentation of the American Education Reward which will be made to the educator who, in the judgment of the board of directors, has contributed in a meritorious way to the advance of public education in the United States. James W. Crabtree, secretary of the National Education Association, Washington, D. C., and Mrs. Susan Dorsey, Los Angeles, have been so honored in past years.

A delightful musical flavor will be given to the banquet by the singing of Richard Crooks, a tenor of unusual ability and the principal address will be made by a nationally known speaker. Ray S. Erlandson, president of the Associated Exhibitors, will act as toastmaster and it is expected

that President Frank Cody of the Department of Superintendence and E. Ruth Pyrtle, president of the National Education Association will speak.

On Thursday noon at the same hotel the School Masters Rotary Club will meet at a luncheon arranged by President Frank D. Boynton, Ithaca, N. Y. The Atlantic City Rotary Club will meet at the same time and the following have been requested to speak for five minutes each: President Frank Cody; United States Commissioner of Education, William John Cooper; Dr. A. E. Winship, Editor, *Journal of Education;* the Honorable Frank Pierrepont Graves, New York State Commissioner of Education; the Honorable Francis P. Blair, Illinois Commissioner of Education, and the Honorable E. W. Butterworth, New Hampshire Commissioner of Education. Last year at Cleveland there were present over six hundred schoolmaster Rotarians and the event was easily one of the big features of the week.

This map of the city shows the location of principal railroad stations and the various piers along the board walk.

On Tuesday evening under the auspices of the committee of New Jersey school officials there will be presented a pageant entitled "Recreative Living," which will depict the development of leisure times through the ages, the importance of leisure in modern life, the possibilities of leisure and the training for leisure to be given by the schools.

Programs to Be Broadcast

An interesting feature of the meeting will be the radio broadcasting which will carry some of the high points of the convention to those who are unable to attend the meeting. Programs will be broadcast Tuesday, 10:30 to 11 p.m. and at 2:30 p.m., when the American School of the Air program will be a feature of the interesting session to be held by the department of classroom teachers; Wednesday, 9 to 9:30 p.m., and Thursday, at 2 p.m. All schedules are Eastern standard time. Of special interest will be the Thursday afternoon broadcast when the National High School Orchestra will play under the management of Joseph E. Maddy, president and musical director of the orchestra, with Walter Damrosch as guest conductor. This orchestra will give a concert on Sunday evening from 9 until 10 o'clock which will be broadcast over the Columbia network.

Auditorium Scene of Meetings

Practically all sessions of the Department of Superintendence and allied associations will be held in the Atlantic City auditorium, truly a mammoth place. It cost fifteen million dollars, occupies seven acres, is 675 feet long and 351 feet wide and is large enough to admit a thirteen-story office building 500 feet long and 300 feet wide and still leave 100 feet on all sides. There are no pillars or posts. The acoustics of the main hall are perfect. Some little difficulty has been experienced when small meetings have been held on the stage only, because the heavy curtains and hanging draperies actually "eat up" the sound, but it is hoped that this defect has now been corrected.

The auditorium is well situated and only a short distance from such hotels as the Ambassador, the Ritz Carlton, the Chelsea, the President, the Marlborough Blenheim, the Traymore, the Dennis, the Shelburne and others which either face the board walk or are on the side streets. Many of the good hotels do not face the ocean and there the rates will be found to be much lower. It should be remembered that in board walk hotels only a small portion of the rooms have a view of the ocean and the rates for these are very high.

One of the delights that will be experienced by

Atlantic City by night, looking up the famous board walk from the Steel Pier.

people from the inland portions of the United States is the excellence of the sea food. With the exception of Boston nowhere in the United States will be found a greater variety of or better fish and shellfish than at Atlantic City. All the hotel dining rooms specialize in it but for real fish dinners there are two restaurants worthy of the visitor's attention. Hackney's is notable and is situated at the Inlet, unfortunately quite a distance from the auditorium but if you are "fish hungry" you will find it well worth the trip. Martin Burke's café, a block from the board walk and only two blocks from the auditorium, also excels in the cooking and serving of all fish foods. Prices are reasonable and the atmosphere is leisurely and pleasant. Burke was formerly maître d'hôtel at the Ambassador and has carried into his own place much of the charm that has made the Ambassador one of America's best hotels.

But there are places that should be avoided at Atlantic City, both for amusement and for food. All food is not good and prices are not always reasonable, particularly in the back districts of the city in what are called night clubs but are in reality tawdry and cheap imitations of New York and Chicago night clubs.

Board Walk Has Many Attractions

The famous board walk is in many respects a delightful thoroughfare. The gaily bedecked hotels, the people, carefree and out for a holiday, the bathers and equestrians, all add to the charm of the scene. For those who insist upon walking there are great distances to be covered, for those who would ride there are 2,500 wheel chairs that may be hired fairly cheaply, and are a popular mode of travel if one is not in a hurry.

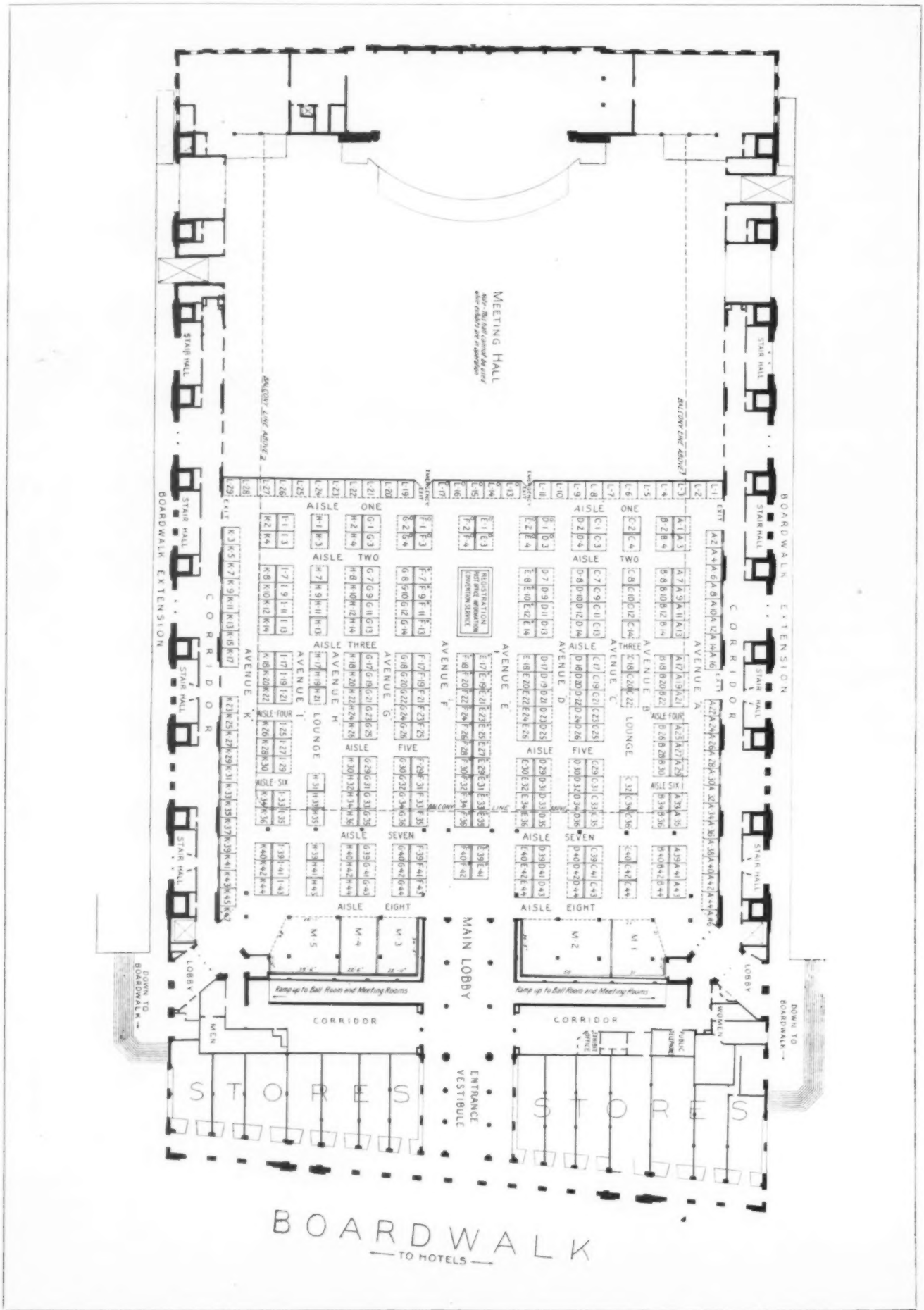
There are innumerable pavilions with chairs or benches, provided by the municipality or by the hotel proprietors and they are pleasant places to while away a few idle moments or to break the monotony of the too long walk.

Interesting Auto Rides May Be Taken

All of the roads leading to Atlantic City are good and traffic rules are sensible. It is a pleasant drive to Atlantic City from Philadelphia or from New York and good time is made by motorists. Garage facilities are improving (there is parking space for 400 cars in the auditorium) but there is still room for improvement among the side street garages, both as to storage space and the prices charged.

Taxicabs at Atlantic City are fairly good but the rates charged are out of line with other parts of the country. It is better to go to your hotel in the hotel bus and after that use jitneys, which are cheap and convenient and which travel only on Pacific Avenue just one block from the board walk.

There are many places of amusement. Theaters, night clubs, gay restaurants, indoor swimming pools, lectures, excursions to smaller resorts, fishing parties, amusement piers and parks, golf courses, airplane rides—in fact everything that would be expected in the larger cities. A visit to this city with its board walk, hotels, ocean front and other attractions is like taking an ocean voyage without leaving the shore. Many of the pleasures of the sea trip are combined with the pleasures of staying at home.



Floor plan of the auditorium showing arrangement of exhibits.

All of the civic and fraternal clubs are represented, such as Rotary, Kiwanis, Lions, Civitan, Exchange, Elks, Eagles, Eastern Star, Foresters, Knights of Columbus, Knights of Pythias, Masonic Orders, Moose, Odd Fellows and the Red Men.

To ensure a comfortable return trip from Atlantic City it is well to arrange for Pullman accommodations upon arrival. There will be many people desirous of leaving the resort on the same day in addition to those attending the Department of Superintendence meeting and hence every precaution should be taken by those going to Atlantic City to see that accommodations are reserved.

Railroad service to Atlantic City is good. There are sixty-five trains daily out of the resort.

Special railroad rates have been provided for the meeting. Round trip tickets on the identification certificate plan will be sold to Atlantic City at one and one-half fare for members of the National Education Association and dependent members of their families. Tickets will be on sale February 18 to 24 in the territory of the Trunk Line, New England, Canadian, Southeastern and Central Passenger Associations. When validated at regular ticket offices in Atlantic City, tickets will be good for return to reach original starting point not later than midnight of March 5. Dates of sale in the western portion of the United States begin earlier and return limits are later.

There will be no legitimate excuse for staying away from church services in Atlantic City. The Presbyterian, Methodist Episcopal and Methodist Protestant, Baptist, Congregational, Episcopal, Lutheran, Society of Friends, Jewish and Catholic religions are all represented. All of the churches are conveniently located. Herewith is a list of the prominent ones: First Baptist Church, Pacific Avenue between Pennsylvania and North Carolina Avenues; St. Nicholas Catholic Church, Pacific and Tennessee Avenues; Congregational Church, Victoria and Ventnor Avenues; St. James' Episcopal Church, Pacific and North Carolina Avenues; Friends' Meeting House, Pacific and South Carolina Avenues; Rodef Sholem Synagogue, Pacific and Arkansas Avenues; St. Andrews'-by-the-Sea Lutheran Church, Pacific and Michigan Avenues; Central Methodist Episcopal Church, Pacific and South Carolina Avenues; Christ Methodist Protestant Church, Pacific and Belmont Avenues, and the First Presbyterian Church, Pacific and Pennsylvania Avenues.

Visitors to Atlantic City during the winter may enjoy horseback riding on the beach.

(List of exhibitors appears on page 79)

The NATION'S SCHOOLS

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Editorials

The Superintendent's Tenure and Training

THE superintendency is still a peripatetic profession. Seven years is the average tenure of office of a superintendent in this country, as revealed in a recent investigation of the research division of the National Education Association. The smaller the city the more abbreviated the tenure. The explanation of this phenomenon is clear. In communities with a population of 5,000 or less, most parents who have children in the schools, and some citizens who do not patronize the schools at all, pose as experts in the educational field. If anything goes wrong with their children or if the taxes go up a little, then the aggrieved persons become vocal in condemning the policies of the superintendent and his colleagues. The superintendent is in the public eye more than any other official in the community or any business man or social leader. Not even the minister is subject to critical observation to such an extent as is the superintendent.

In larger cities the relation of individual parents or taxpayers to the superintendent is not quite so direct and personal. But the political factor plays an important rôle in the big city. With few exceptions, political opposition is awakened by the superintendent sooner or later, no matter what his policies may be. A glance at the list of superintendents who have maintained their positions for twenty or twenty-five years shows us that they are all in very conservative communities. In certain places where superintendents have held office for a long time, their personal and family connections may hold the politicians at bay and so they can go on and attend to their professional duties without fear of decapitation.

There is no immediate remedy for the deplorable situation of the superintendent's tenure. So long as education is administered by local boards, representative of all types of interests in the community, and so long as every patron of the schools and every taxpayer feels confident to judge the merits and demerits of the superintendent's policies, so long will the superintendent's position be in jeopardy. In no other country do laymen play so important a part in determining the continuance or abandonment of educational policies as they do in America. There are some advantages in this intimate relationship between the schools

and the public, but until our people can view education impersonally and not feel that they can get the superintendent's scalp whenever he doesn't do whatever they personally and individually want to have done, education in our country will suffer from the rapid shifting of those in charge of educational work.

If superintendents could be certain of permanent tenure, they would be encouraged to extend and enrich their preparatory work. As it is, though, over half of the superintendents have either a master's or a doctor's degree. All but 2 per cent of the superintendents studied by the research division of the N. E. A. are graduates of colleges and universities. So far as academic training is concerned, this is a much better showing than could have been made ten years ago. An increasing proportion of superintendents are going ahead and making thoroughgoing preparation for the duties of the superintendency, although they must know that their tenures will depend to some extent upon the whims of lay boards of control.

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The Rôle of the National Education Association

THE remarkable growth of the National Education Association during the last ten years is exceedingly gratifying to those who are interested in the improvement of teaching as a profession. It is gratifying also to those who are making an effort to put educational work upon a scientific basis.

Two decades ago the activities of the N. E. A. were devoted principally to rather hortative and platitudinous expressions regarding the improvement of education. To-day they are concerned largely with the encouragement of research into the methods and results of educational activities. The surplus funds of the N. E. A. are being devoted to a great extent to the solution of complicated problems affecting the materials and methods of education, from the nursery school through the graduate school of the university, although, quite properly, higher education is receiving less attention than are elementary and secondary education.

The N. E. A. is exerting an influence for good in the teaching profession that could not be exerted so effectively by any other type of association. Many societies and organizations are working toward the improvement of education and the betterment of the profession of teaching, but the N. E. A. is far more comprehensive than any other organization and is better equipped to give advice regarding the building of the educational structure as a whole. Fortunately the N. E. A. is affiliating with special organizations and is seeking to coordinate the work of all groups engaged in the investigation of educational problems.

The N. E. A. is becoming so vast and its influence is already so vital in American education that its policies should be, and to an increasing extent are being, determined by permanent committees. The change of presidents every year would operate as a disturbing factor in the usefulness of the N. E. A. were it not that the real work of the association is being or probably will soon be directed by continuing committees of capable educational men representing the various interests of the entire educational system. The policies of the N. E. A. should not be directed by rapidly changing presidential management.

There are now approximately 200,000 members of the N. E. A. It may be predicted that before another decade is completed the majority of all teachers in our country will be affiliated with the N. E. A. and will receive help therefrom, according to their varied needs. The association has already played an important rôle in elevating teaching to a stable profession on a par with other professions. It has worked effectively for the establishment of tenure laws, retirement laws, improvement in the training of teachers and extension of education to include the secondary school period. There is reason to believe that it will do even more in the future than it has been able to do in the past in stabilizing the teaching profession.

N·S

Division of Labor in the Training of Teachers

NEW HAMPSHIRE recently appointed a committee to study the problem of training teachers for the public schools. The committee has just made a report in which it has recommended that the normal schools should stick to their original task and prepare teachers only for the elementary and rural schools while the state university should prepare teachers for the secondary schools. New Hampshire is, then, endorsing the original program for the normal schools and is taking a stand against the modern trend of converting the normal schools into teachers' colleges equipped to prepare teachers for all departments of the public educational system.

That there is needless duplication of effort today in the training of teachers in most of the states, no one familiar with the situation can doubt. There is a distressing and even menacing

surplus of teachers, especially for the grammar grades and the high schools. Young people preparing for teaching think it is socially and to some extent economically more advantageous to teach in the junior or senior high school than in the elementary or grammar school, and especially in the rural school. The higher institutions are expanding their resources for training teachers, partly because they appreciate that they must get their graduates into the schools in order that the schools may feed back into the universities and colleges. There is, of course, the belief in the higher institutions that secondary school teachers need mainly—many college men think wholly —a knowledge of the subject to be taught. Understanding of the nature of the child and of the most efficient way to teach him and discipline him is regarded as of no consequence.

So there the situation stands. The problem of adjustment between the teachers' colleges and the colleges of liberal arts in training teachers cannot be solved unless there is constituted in every state an educational commission to study without prejudice or bias and with complete understanding the needs of the rural, elementary, grammar, junior and senior high schools in respect to the academic and professional equipment of teachers.

Health Education

DURING the past decade we have been making progress in health instruction, but we need to keep going for some distance yet along the lines we have been moving. In some schools there is no systematic course in health instruction. The teachers rely almost entirely upon morning talks. They use health guides in preparing their talks, but the pupils do not have any textbooks or reading books to reinforce or fix in memory what is told them by their teacher. It will doubtless be granted by the readers of The NATION'S SCHOOLS that in no other important subject taught in the schools would we be satisfied with only morning talks by the teacher. Think of teaching history, geography or arithmetic entirely by occasional informal talks!

If we expect to influence a pupil's action so that he will adopt healthful and avoid unhealthful practices, we must make the teaching of health more impressive, more dynamic than the teaching of other subjects in which the pupil has not acquired habits already. In the matter of health, pupils have established habits and prejudices before they come to school. For instance, the majority of pupils have probably got into the way of drinking ice water at meals. Now, in order to change this habit, if healthful living requires it, one must make a deep impression upon the pupil, which means that it must be presented so concretely and impressively that he will appreciate the importance of restraining the habit which he has already acquired and correcting the prejudice in favor of ice water.

In connection with an investigation of the methods of teaching health in the schools, several hundred students in one university were asked to describe their habits with respect to a number of health matters. They drink ice water; they eat hot breads when they can obtain them; a large proportion of them, men and women alike, smoke cigarettes; they sit up late hours; they swallow their food largely unmasticated, especially at breakfast and luncheon, and they are guilty of other violations of the healthful living that they were taught in the schools.

Some teachers and some textbooks on health magnify the diseases that are supposed to afflict one who violates any health habit. The instruction in health in a number of the schools investigated consists pretty largely in talking about diseases, with the result that the pupils become callous. To play up disease is an ineffective way to develop interest in health. Investigations made by psychologists interested in psychoanalysis have shown that quite frequently adults suffer from one disease or another mainly because the thing has been impressed upon them so deeply that they cannot free their minds of it. Doctor Jackson has published a book in which descriptions are given of persons supposedly suffering from one or another affliction the source of which was largely mental. Other books which are attracting widespread attention at this moment cite many instances of persons who have been cured of aches and ills when they were made to think of health and vigor instead of ill-health and disability.

The practice of dwelling too insistently upon disease in health instruction in the schools cannot be too severely condemned. Fortunately instructors are coming to rely more largely than heretofore upon positive and constructive methods in health instruction. They are making pupils think of health as a means of accomplishing what they want to accomplish—not having to time their play and work; developing good hearts and lungs so that they can perform stunts with as much skill and endurance as their companions, and taking care of the teeth so that they can chew their food thoroughly in order to have strength enough to run as fast or hit a ball as hard or do any other task as well as their competitors.

List of Exhibitors at Atlantic City Meeting

A

Booth No.

Albert Teachers' Agency G-4
Allyn & Bacon D-23
American Abrasive Metals Company B-12
American Child Health Association B-8
American Crayon Company C-29
American Education Press, Inc. F-40 F-42
American Federation of Organ. for the Hard of Hearing, Inc. A-32
American Junior Red Cross K-45
American Library Association C-7
American Medical Association C-18
American School & University A-38
American Seating Company D-29-31-33-35, E-30-32-34-36
American Type Founders Company E-39
Anderson Gymnasium Company A-8
Appleton & Company, D. D-3
Arlo Publishing Company C-14
Art Extension Press, Inc. G-23
Atwater Kent Mfg. Company B-26-28-30
Automatic Pencil Sharpener Company H-34

B

Babb & Company, Inc., Edward E. C-21
Bacon & Vincent Company, Inc. H-3
Balfour Company, L. C. H-31
Barnes & Company, A. S. H-18
Bausch & Lomb Optical Company K-37-39
Beck Duplicator Company K-17
Beckley-Cardy Company C-9
Bell & Howell Company K-29
Binney & Smith Company C-17
Blakiston's Son & Company, P. C-32
Bobbs Merrill Company H-39
Book House for Children E-12-14
Bowling Green Business University L-7
Bradley Company, Milton F-11-13
Brown-Hobertson Company, Inc. L-21
Bruce Publishing Company E-41
Bureau of University Travel I-43
Burroughs Adding Machine Company A-3

C

Camp Fire Girls A-30
Caproni & Bro., Inc., P. P. E-3
Carter Bloxonend Flooring Company B-44
Celotex Company H-8
Central Scientific Company D-42-44
Chicago Apparatus Company D-24-26
Chicago Gymnasium Equipment Company L-22
Chicago Hardware Foundry Company K-14
Children's Flower Mission F-2
Clarin Mfg. Company B-42
Clark & Company, George M. B-40
Classroom Teacher, Inc. F-7-9
Cleanliness Institute L-28-29
Coca Cola Company K-3-5
Colgate-Palmolive-Peet Company A-29
Columbia School Supply Company L-8
Compton & Company, F. E. F-17-19
Continental Chemical Corporation I-39-41

D

Demco Library Supplies A-7
De Moulin Bros. Company K-12
Dennison Mfg. Company C-10-12
Denoyer-Geppert Company L-6-26-27
Derby & Company, P. C-2-4
Deskor Chair Corporation L-23-24
Devereux Schools L-5

Booth No.

DeVry School Films, Inc. K-33-35
Dick Company, A. B. H-9-11
Dictaphone Sales Corporation A-34-36
Disston & Sons, Inc., Henry D-22
Ditson Company, Oliver K-26
Ditto, Inc. K-2-4
Dodge Bros. Corporation I-17-19-21, K-18-20-22
Doubleday, Doran & Company, Inc. L-20
Draper Shade Company, Luther O. F-30
Dudley Lock Corporation E-31

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Eastman Teaching Films, Inc. M-3
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Ebinger Sanitary Mfg. Company, D. A. C-43
Educational Device Company H-14
Educational Publishing Corporation E-1
Educational Test Bureau A-33
Eisenstein & Co., Inc., H. A-41
Electrical Research Products, Inc. M-2
Encyclopaedia Britannica, Inc. E-34-36
Esterbrook Steel Pen Mfg. Company D-20

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Finnell System, Inc. D-40
Fisk Teachers Agency H-33
Ford Sales Company, J. B. B-10
Forse Mfg. Company G-35
Foundation Press, Inc. I-7
Frontier Press Company F-22-24

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Garrigue Globe Corporation H-13
Gaylord Bros., Inc. I-25-27-29
Giant Mfg. Company A-11-13
Ginn & Company F-39-41
Gregg Publishing Company F-26
Grigsby-Grunow Company L-13-14-15-16-17
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Hall & McCreary Company G-14
Hammett Company, J. L. G-25
Harcourt, Brace & Company H-19
Hart & Hutchinson Company A-42
Harter School Supply Company C-25
Heywood-Wakefield Company A-17-19-21, B-18-20-22
Hillyard Chemical Company I-33-35
Hinds, Hayden & Eldredge, Inc. H-2
Hivernaud & Westernacher K-43
Holden Patent Book Cover Company F-21
Holmes Company, Warren S. K-7
Holton & Company, Frank B-2
Houghton Mifflin Company G-13
Hughes Company, Marshall A-8
Huntting Company, Inc., H. R. D-10

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International Kindergarten Union A-26
International Time Recording Company of N. Y. G-17-19-21
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Laurel Book Company G-1-3
Legislative Commission, N. E. A. G-30
Leitz, Inc., E. G-43
Lippincott Company, J. B. L-25
Little, Brown & Company F-32
Llewellyn Company, Jos. C. D-7-9
Longmans, Green & Company H-30-32
Lyons & Carnahan E-23-25
Lyon Metal Products, Inc. C-29-31

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McKinley Publishing Co. K-10
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Metropolitan Life Insurance Company D-25
Midland Chemical Laboratories, Inc. K-41
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National Geographic Society C-22
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New Jersey Seating Company L-3
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Norton Door Closer Company ..... H-10 or 12
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Palmer Company, A. N. G-11
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Pepperell Braiding Company K-9
Peterson & Company, Inc., Leonard B-4
Printaprimer Company A-10
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Vonnegut Hardware Company H-10-12

W

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Wetmore Declamation Bureau H-7
White Sewing Machine Company G-26
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Wilson Company, H. W. D-8
Wilson Magazine Company ..... H-21(½)
Winnetka Individual Materials, Inc. E-35
Winston Company, John C. E-8-10
Wittliff Furniture Brace Company K-34
Wright Company, E. A. E-22
World Book Company F-1-3

Y

Yale University Press D-1
Yawman & Erbe Mfg. Company C-1-3

Z

Zaner-Bloser Company G-31

Practical School Administration:

Administering Revenue Funds Other Than Taxes

By PHILIP LOVEJOY, Assistant Superintendent of Schools, Hamtramck, Mich.

SOONER or later every school administrator finds his institution receiving multitudinous small revenues that do not come from the regular school taxes. These include receipts from school bookstores, athletic accounts, school dramatics and pageants, to say nothing of cafeterias and countless other types of activities.

Needless to state these funds need to be administered and recorded as punctiliously as do those that are derived directly from taxation. In a large sense they are as much public funds as are the revenues from taxes. The public is entitled to a report on these funds the same as on the regular costs of school administration. By necessity every school has a fairly adequate method of handling the tax revenues, since reports are required by both the state and federal governments.

These other funds, being purely local, have been without much uniformity in their handling and many an administrator has found it more or less difficult to care for these funds adequately and yet simply. The problem of the large system as compared to the small system in this regard is simply one of numbers of accounts and size of revenue. If the small school sells a simple hot lunch at a cost of five cents and has but fifty pupils who purchase it, the problem of accounting is no different from the great metropolitan school that sells a differentiated menu to 4,000 pupils in each of twenty schools. The problem of management has entered and greater buying is necessary, but the money in each case must be cared for with the same exactness.

Controlling Funds

Many schools have had problems arise that concern the control of funds raised under the auspices of some class. The problem has related to the ownership and expenditure of these revenues. In some instances in smaller communities the classes have assumed that the funds were the property of the class, to be spent according to its own dictates. The lack of a policy on the part of the board of education and the lack of a carefully prepared accounting plan for such revenues do not lessen the ultimate problem. Many a school executive has found himself in a tight place in such controversies. It is necessary here, as in all other cases involving money, to have a carefully prepared plan and then to place it in operation. A minimum of labor must be entailed in the system; yet the accounts must be accurately kept. Let us first of all discuss the policy concerning such funds. No technique for their control can exist until the policy is established. One public school has the following code:

"All school activities involving the expenditure of money not appropriated through the budget shall be classed as internal.

"Internal school activities shall be under the direction and control of the superintendent of schools and shall be conducted by means of a complete system of accounting activities to be known as internal accounting."

Bookkeeping in the School

So much for a general policy concerning these funds. Next there must be developed a technique for adequately handling the funds. The first step in this development is found in that part of the public school code, already mentioned, that relates to finance. A method of procedure is developed, and the working of the policy explained. So many questions are asked concerning a simple but entirely comprehensive system for administering revenue funds that we shall attempt to explain in detail the technique for the control of such monies.

In the first place, there must be a set of books so that revenues, expenditures and balances may be seen at a glance. Then, of course, there must be a means of requisitioning the money or the supplies needed. If these supplies are to be purchased, there must be a purchase order and ultimately a check or voucher to settle the claim. Various types of receipts may be necessary and certain special types of foolproof tickets may have to be developed. If stores are to be kept in a local stock room there must be of necessity a store or equipment inventory that will give a running balance. A trial balance book together with a pay roll form and a balance sheet, as well as a form for traveling expenses, may be highly desirable.

It is necessary for the administrator to list all of the various activities that come under the head of internal accounts. Their functions and objectives must then be defined. After that it is possible to determine their financial status. Thereafter it is necessary to develop forms that will adequately and completely care for the needs or objectives that have been previously determined. No deviation must be permitted. All accounts must be kept in regular order. A complete statement must be available at a moment's notice and the entire affair raised above the plane of suspicion.

No administrator must evince the slightest desire to cover up any particular account. He must invite information about the accounts from the faculty, the pupils and the citizens. The best way to avoid any undue excitement on the part of any of these three groups is the development of a simple understandable system from which periodic statements are issued. Information is a formidable defense. It would seem that more than one individual should be involved in the *modus operandi* of the system and yet but one person should be definitely responsible. By that is meant that the determination of expenditure, for instance, should come from someone other than the final accountant who writes the checks or from someone other than the administrator who passes judgment upon the need.

How Records Are Kept

With these ideas in mind, we shall develop a simple system for efficiently handling these monies. First and foremost there must be a statement of general regulations. In the public school code referred to these are given as follows:

"For all activities conducted in the school for which no public monies are appropriated, there shall be a complete permanent and uniform system of financial records. Internal activities comprise the conduct of lunch rooms, school publications, locker rentals, athletics, entertainments and such other activities as shall from time to time be sanctioned by the board of education.

"The responsibility for the conduct of these activities shall be vested in the principal of the school. He shall be responsible for the maintenance of a system of records to control all the financial transactions that occur.

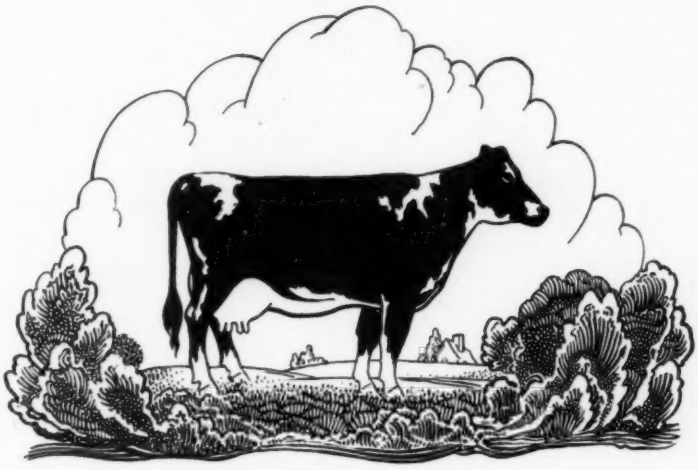
"This accounting shall include a control over all cash receipts and disbursements, the incurrence of debts and the making of contracts, the purchase and position of supplies and equipment and the custodianship of cash and other assets. All monies collected in the school shall be passed through these internal accounting records.

"The entire system of records shall be subject to the inspection and audit at any time by the superintendent of schools or his delegated assistant."

Having set up these general regulations so that they are clear to all concerned, we next list the special accounting forms that will be needed. Those listed here are for a city with two high schools, and six elementary schools. All the forms mentioned here, however, will not necessarily be needed in any one school. The local administrator must choose for himself. In one school system there are now two sets of accounts. One is kept for the senior high school and the other for the junior high school. Two separate clerks maintain these records. Each clerk is regularly employed by the board of education for purposes other than internal accounts. A portion of the clerks' time is daily devoted to this important task. The list of record forms for internal accounting includes the following:

1. Finance I A 251, cash receipts, duplicate, white and yellow.
2. Finance I A 251a, envelope cash receipts, students' association.
3. Finance I A 252, cash book sheets (white, 11″ by 14″).
4. Finance I A 252a, binder for cash book.
5. Finance I A 253, ledger sheets (buff, 9½″ by 11⅞″).
6. Finance I A 253a, binder for ledger sheets.
7. Finance I A 254, requisition, duplicate, white and yellow.
8. Finance I A 255, purchase order, white, blue, salmon, pink, numbered consecutively.
9. Finance I A 256, voucher check, duplicate, pink, safety yellow, numbered consecutively.
10. Finance I A 257, equipment inventory, yellow, head and tail.
11. Finance I A 258, sales control record, salmon.
12. Finance I A 259, loan of equipment.
13. Finance I A 260, ticket, candy receipt, yellow.
14. Finance I A 261, locker receipts, white, perforated.
15. Finance I A 262, internal pay roll.
16. Finance I A 263, student ticket, new form.
17. Finance I A 263a, connected, numbered, strip ticket.
18. Finance I A 264, total balance sheet.
19. Finance I A 265, lunch room inventory, includes candy.
20. Finance I A 266, report of each event.
21. Finance I A 268, receipts.
22. Finance I A 281, petty cash voucher.

The accounts needed are next listed. Here is



INSIST ON THE ORIGINAL

Millions—millions of American school children are drinking this delicious malted milk, because it is unlike any other—and because it is perhaps the most wholesome food for growing children that nature and science have yet evolved. Here's a great boon to lunch hour service in schools. A ten-gallon electric mixer for Horlick's may be had without outlay of purchase money. Pays for itself. It enables school lunch rooms to mix this best loved malt drink—much higher in food value than the best full cream milk—in economical lots. Takes two minutes to mix. Horlick's, the original malted milk, is today, as always, first in quality of ingredients, first in nutrition, first in deliciousness.

Send today for our School Plan with details of our interesting contract whereby we place one or more mix-

ing units in your School without appropriation from you. The Horlick Malted Milk Corporation, Racine, Wisconsin.

HORLICK'S

a suggestion, given under the heading of "Activities."

Account No.
1. Board of education, fines, textbook losses, etc.
2. Board of education, telephone fees.
3. Board of education, waste paper.
11. High school football.
12. High school basket ball.
13. High school baseball.
14. High school track.
15. High school soccer.
16. High school girls' hockey.
17. High school girls' basket ball.
18. High school swimming.
21. High school Cosmos.
31. Band account.
32. Orchestra account.
41. High school debating.
51. Class of January, 1929.
52. Class of June, 1929.
53. Class of January, 1930.
54. Class of June, 1930, and each additional class as it attains junior classification.
61. High school lockers.
71. Student association, General Fund.
72. Petty cash.
81. High school lunchroom.
91. Interest on bank balances and bonds.
92. Such other accounts as may be necessary.
101. Athletic reserve account.
102. Lunch room reserve account.
103. Cosmos reserve account.
104. Orchestra and band reserve.
105. Equipment reserve.
106. Locker deposits reserve.
107. Equipment reserve.
201. Board of education, evening school and such accounts as may be needed.
301. Board of education, recreational fund and such accounts as may be needed.

Suggested means of procedure for utilizing these various forms are as follows: A general ledger shall be kept with accounts to control all financial transactions. The ledger form used, Finance I A 253, shall be loose-leaf, and of stock form.

The activity accounts shall be credited with receipts and debited with expenses incurred by them. Other accounts shall be credited and debited as hereinafter provided.

Postings shall be made to the ledger from the books or documents of original entry. Postings shall be made daily, and balances checked weekly.

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Postings shall be made to the ledger from the books or documents of original entry. Postings shall be made daily, and balances checked weekly.

(To be continued)

A Message to the Teaching Profession From the N. E. A. President

To all members of the teaching profession in the United States, E. Ruth Pyrtle, president, National Education Association, sends greetings through the *Journal of the National Education Association.* Her message is reproduced here.

"Heartiest greetings for the new year! May it be for every teacher a year of happy achievement. The profession is at work on its problems as never before. Among the great projects which are being carried forward are:

"1. The enlistment of the profession toward the goal of 100 per cent membership in local, state and national associations.

"2. Life enlistment in behalf of permanent professional service.

"3. Vitalized group study and faculty meetings using the state and national journals.

"4. Every teacher at work on the problems of the profession with a fuller understanding of such questions as tenure, retirement, salaries and the training of teachers.

"5. Revision of the curriculum to meet the new needs of to-day's life.

"6. Better articulation of the various units of the school system.

"7. The interpretation of the schools through American Education Week.

"8. The strengthening of state departments of education and the creation of a federal department of education.

"9. Preparation for the celebration of the Horace Mann Centennial in 1937.

"May every school work on some of these projects—perhaps five out of the nine. The teaching profession to-day has a large place in American life. The people are turning to the schools with a rich and abundant faith that they will provide a fair start in life for our thirty million youth. Did professional people ever face a greater challenge?"

In the "City of Light" even the streets are paved with SEALEX LINOLEUM

PUBLIC HALL

A handsome floor of Sealex Treadlite Tile, in black and white marble effects, is the principal decorative unit in this dignified interior. This floor was constructed tile-by-tile to a design by the architects, F. P. Platt & Bro.

THE "City of Light" is a model city (with streets you can walk on and "buildings" you can enter) built for the Westinghouse Lamp Company on a single floor of a New York skyscraper.

While the "City" is primarily an exhibit of scientifically correct lighting, it also demonstrates the value of modern resilient floors.

F. P. Platt & Bro., the well-known architects who planned this unusual exhibit, have used Sealex Linoleums and Sealex Tiles in a wide variety of designs and patterns. Each of the different types of interiors has a suitable floor—modern, attractive and comfortable underfoot.

Let us enter the school class-room in the "City of Light." The floor installed here is of the same advanced type found today in so many of our finest educational centres, from kindergartens to universities...a Bonded Floor of Sealex Linoleum.

It is modernly colorful...quiet...comfortable. Economical too—for these long-wearing floors never require painting, varnishing or refinishing. A push broom or mop does for ordinary cleaning, and if things are spilled—ink, fruit juices, greasy foods etc.—they are wiped up without a trace of damage.

May we tell you about the Guaranty Bond which goes with BONDED FLOORS of Sealex Linoleum and Sealex Treadlite Tile?

CONGOLEUM-NAIRN INC.

General Office: Kearny, N. J.

Authorized Contractors for Bonded Floors are located in principal cities.

CLASS-ROOM

A two-toned floor of Sealex Jaspé Linoleum—cheerfully decorative without being obtrusive. This, like all Sealex floors, will keep its original good looks—it is spot-proof and stain-proof.

Index of School Building and School Supply Prices

Continuing down trend in school building costs is forecast; prices of basic materials of school supplies are also decreasing sharply

By HAROLD F. CLARK and OSCAR K. BUROS, Teachers College, Columbia University, and JOHN GUY FOWLKES, University of Wisconsin

THE final index of total school construction costs for November has dropped to 97.75. This figure represents a decline of 0.53 points from October, but an increase of 0.38 points over November, 1928. Present data indicate a continuing down trend in the costs of school building construction—at least for the next few months. The preliminary index for December is 97.52. Within the last four years, school construction costs have decreased 2½ per cent. The school building index includes the average costs of material and labor throughout the United States but not the costs of sites or of architects' and contractors' services.

As a result of the conferences called by President Hoover, much newspaper publicity was given to the belief that the leaders of labor and industry had agreed not to lower wages or demand increases. Nevertheless, in spite of the decreasing volume of construction and the increasing amount of unemployment in the building trades, the index of labor costs for December increased to a new all-time high record. The final index for December is 104.00.

Material prices for November, as indicated by the index of material prices, decreased sharply from the October prices. The final index for November is 93.30. Further decreases are to be expected in the near future. The preliminary estimate for December is 92.80.

The total valuation of new building contracts awarded in the thirty-seven states east of the Rocky Mountains, as reported by the F. W. Dodge Corporation, amounted to $316,368,100 during the month of December. This amount is 19 per cent under the total for November, 1929, and is 27 per cent under the total for December, 1928. The December, 1929, total is the smallest monthly total since February, 1925, and is 36 per cent less than the average December total for the previous four years. The total construction bill for the year 1929 amounted to $5,754,290,500, the smallest annual total in the past five years.

The total value of new contracts awarded for educational buildings during the month of December was $19,841,800. This figure represents a decrease of 23 per cent from the November total and a decrease of 22 per cent from the total for December, 1928. The total valuation of all educational building contracts awarded during 1929 amounted to $381,908,000. This total is 5 per cent less than the total for 1928 and is 6 per cent less than the average of the previous four years. The peak year in educational construction, as indicated by valuation, was 1925 with a total of $426,386,000.

PRICE INDEXES: 1926 AVERAGE = 100

	Material	*Labor*	*Total Costs*
1920	133.42	79.30	110.62
1921	102.27	82.96	94.14
1922	97.51	78.87	89.66
1923	108.28	87.64	99.58
1924	104.13	94.49	100.01
1925	99.84	95.98	98.22
1926	100.00	100.00	100.00
1927	95.01	101.99	97.95
1928	93.31	102.70	97.26
1928			
November	93.32	102.93	97.37
December	95.41	102.93	98.58
1929			
January	95.32	102.99	95.58
February	95.63	102.99	98.73
March	95.26	102.99	98.51
April	94.00	103.02	97.80
May	93.92	103.00	97.74
June	93.00	103.14	97.27
July	93.13	103.36	97.44
August	93.20	103.34	97.47
September	94.16	103.46	98.07
October	94.28	103.78	98.28
November	93.30	103.86	97.75
December	92.80*	104.00	97.52*

*Not final.

Thomas S. Holden, in charge of the statistical division of the F. W. Dodge Corporation, esti-

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NEWTON, MASS.
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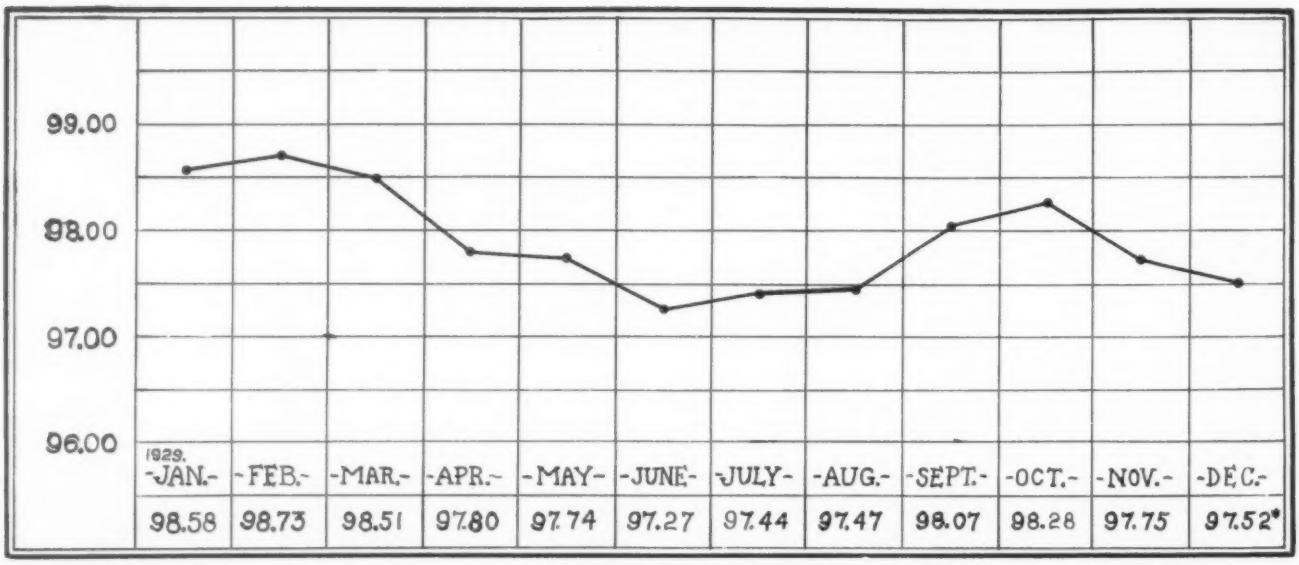

*Chart 1. Index of school building prices. *Not final.*

mates that school building construction in the thirty-seven Eastern states will reach a new high total of $440,000,000 during 1930. These thirty-seven states are estimated to include 91 per cent of all construction in the United States. A group of leading building publications operated by National Trade Journals, Inc., optimistically forecast that the valuation of education construction will be approximately $641,000,000 for the nation.

As a part of the business stabilization program, a decided increase in the volume of schoolhouse construction may be expected. The bond market as shown by the index of school bond prices appearing in the *American School Board Journal* is becoming more favorable for school bond issues. In addition, the costs of schoolhouse construction are relatively low as compared to recent years. School men, however, must refrain from using the present situation as an opportune time to rush through building programs that are not in accordance with actual needs. Now, as always, the desire for new school buildings should

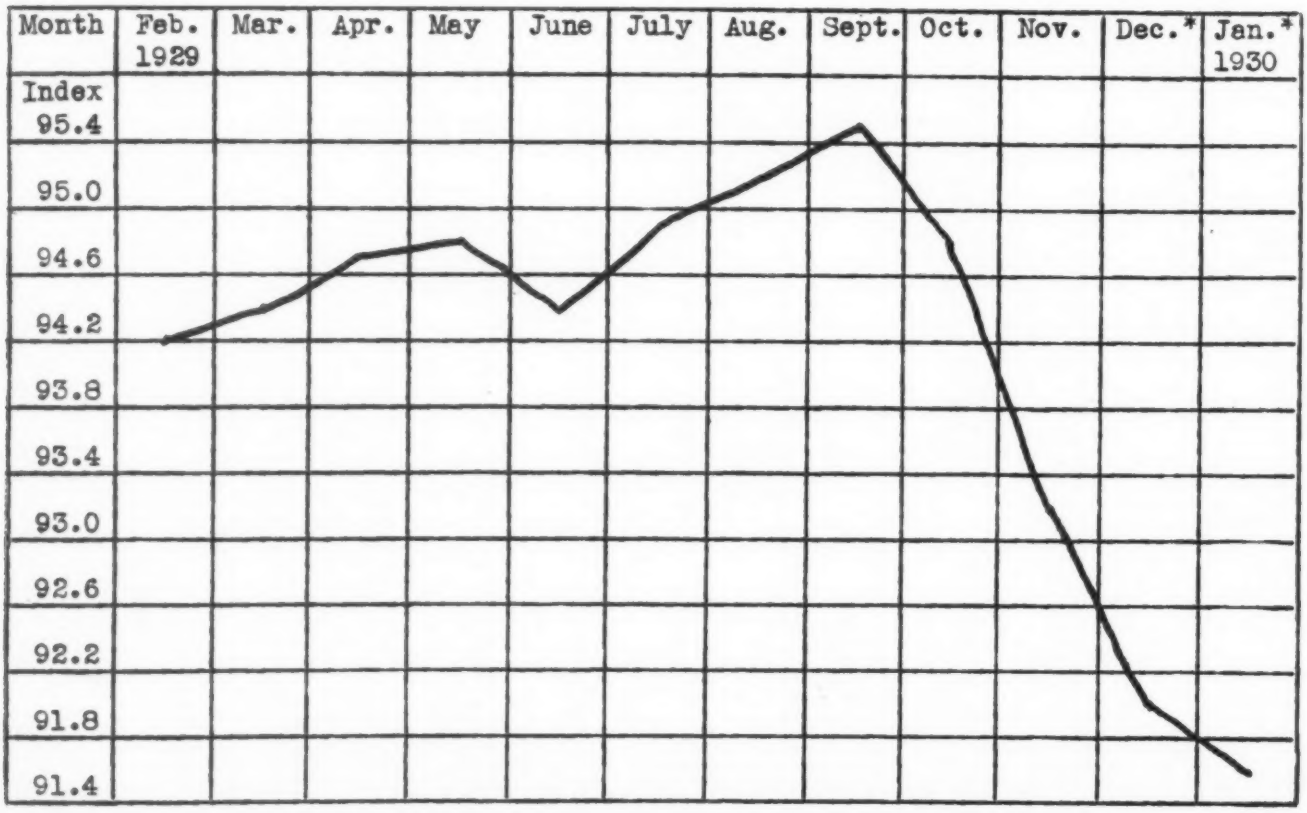

*Chart 2. Monthly index of prices of instructional school supplies. *Not final.*

Copper and Brass inside and out give this School Double Protection

Lincoln School, Denver, Colorado, showing new addition on left. George H. Williamson, Architect

SCHOOL buildings must be protected against deterioration on the inside as well as on the outside. This new addition to the Lincoln School, Denver, is protected against the elements by Copper flashings.

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be critically examined in the light of the community's present need for a new building and its ability to pay, and in the light of other conflicting municipal needs, as well as of the popular general encouragements emanating from the President's business councils for municipal construction, to avert a possible severe depression.

The Trend of School Supply Prices

The index of prices of the basic materials entering into the production of school supplies has dropped sharply during the past few months. The final index for November, 1929, is 93.2, which represents a decrease of 1.6 points from the total of the previous month. The most satisfactory data now available indicate a continuance of the present sharp down trend in the index.

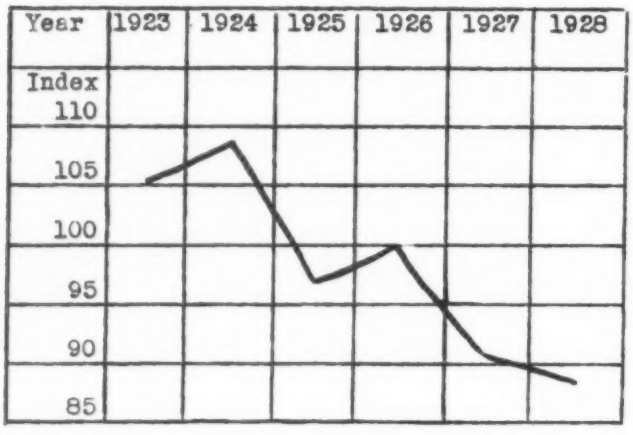


Chart 3. Annual index of prices of instructional supplies.

The probability of continuing price declines in the basic materials renders a cautious buying policy desirable. Prices of the raw materials needed to produce school supplies in the finished form are more sensitive to influencing factors than are the prices paid by the schools themselves. This results in more stability in school supply prices. The present sharp decreases, however, should be reflected in later declines in the catalogue prices of our more efficient and reliable school supply houses.

Snoopervisors, Pseudo-visors and Supervisors

Principals may be classified, according to a recent publication of the research division of the National Education Association, as "snoopervisors" "pseudo-visors" or supervisors.

"The 'snoopervisor,'" the article says, "is a principal who drops into the classrooms of his teachers for short irregular visits, counts the number of open windows, notes the neatness of the floor, smiles at the pupils, scowls at the teacher and exits hurriedly with a mystical expression on his countenance.

"The 'pseudo-visor' is a busy principal. He visits all classrooms hurriedly on a 'get-into-every-room' schedule. He takes copious notes on the class work, making the teacher realize that she is being critically examined. He interrupts the instruction to leave a copy of his notes, and tells the teacher he expects improvement before his next visit.

"The 'supervisor' visits classes according to previously thought-out purposes. He observes often and long enough to form reliable judgments. He observes mainly teaching methods and pupil behavior—not persons. He confers with the teacher at a time when she may ask questions, and offers suggestions."

"The principal is a success insofar as he can help teachers, parents and pupils to make classroom teaching do the most for the child," the article concludes.

The Principal's Part in Interpreting the School to the Community

That the principal must interpret the schools to his teachers, to school boards and to the entire community goes without saying, according to E. J. Coltrane, superintendent, Salisbury Public Schools, Salisbury, N. C., in the *North Carolina Teacher*.

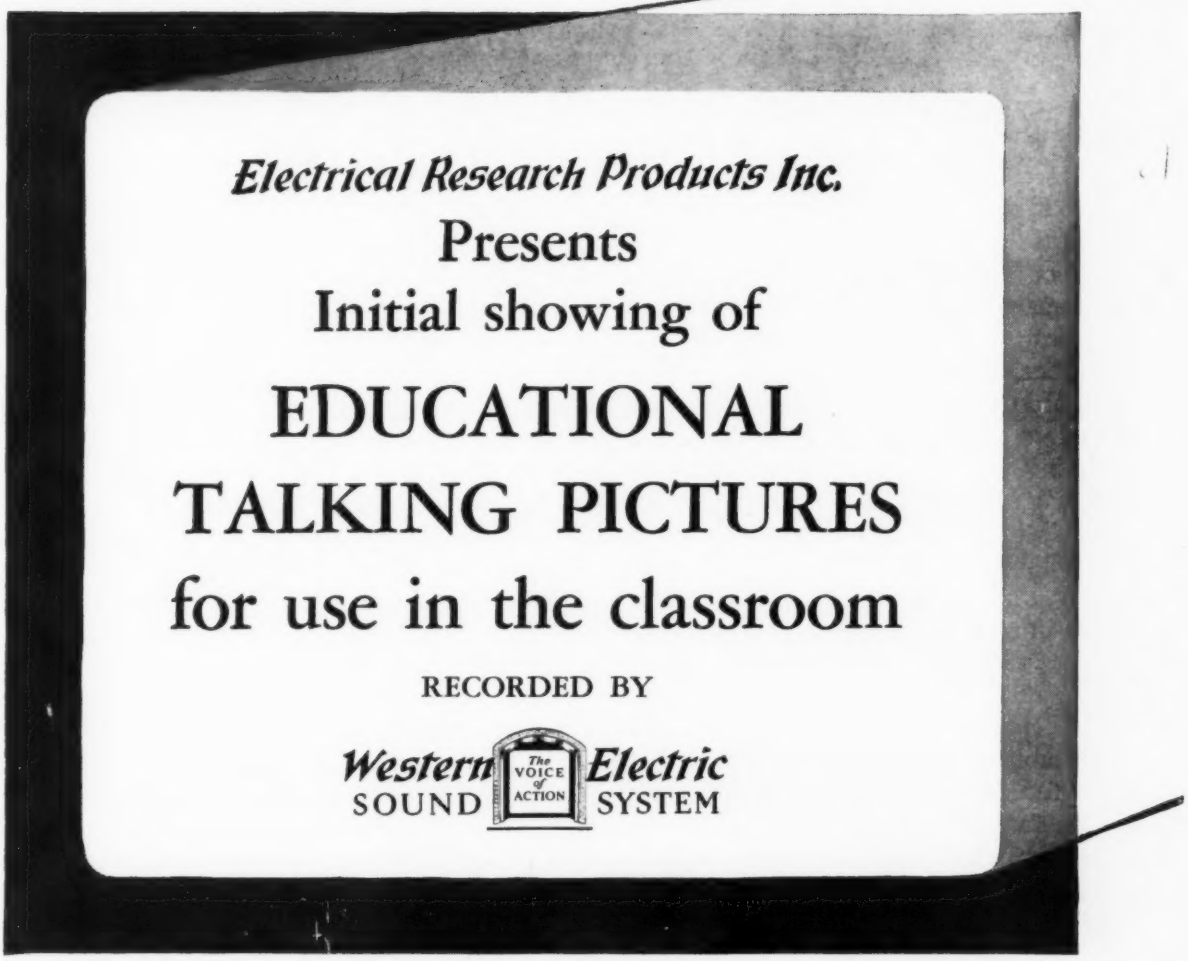
He should be prepared to interpret to his teachers modern trends in education. If teachers really understand the school situation in the state they will be able to do much toward correcting false impressions that may exist in the minds of school patrons with whom they associate.

The principal should interpret the schools to his local school board, in case there is not a local superintendent who deals directly with the board What the school board thinks will determine to a large extent what the community thinks.

Since all citizens of a community play a part in shaping school policies, the principal should see that the schools are properly interpreted to the community. What the citizen understands about his local school will determine his attitude toward state school issues. Unless the principal proves to be the interpreting agency, the community may not be friendly to the schools.

"How may the principal interpret the public schools?" Mr. Coltrane asks, and answers the question thus: "By the use of printed material, by exhibits of school activities, by public and private discussion of school issues, by visits of patrons to the schools and by the school activities and results."

Announcing a new medium for curriculum enrichment



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What Is Ahead for Interscholastic Athletics?

A timely discussion of present tendencies in secondary school competitive athletics is presented here, with constructive suggestions for synchronizing educational ideals with a universal play program

By ARTHUR B. MOEHLMAN, Professor of Administration and Supervision, School of Education, University of Michigan

THOUGHTFUL educators in recent years have given serious consideration to the evils that have attended the tremendous development of competitive athletics upon a secondary school level. The basic conflict of the activity, as it is now organized, with modern educational ideals is apparent to all who care to spend the time essential for making such study. The period of indifference, followed by one of active support and development, in turn followed by the development of a present-day organization over which administration has little real control may be best illustrated by the old story of the man who laid hold of a bear by the tail. He could not hang on and he could not let go. Such is the situation to-day, and many thoughtful school men are at a loss to know what to do.

Factors That Militate Against Change

While a careful examination of conditions leads inevitably to the conclusion that present practice is far from desirable and that its negative aspects far outweigh its positive values, yet the same study also indicates that many factors are involved which make change a delicate matter. Among these are: (1) the vested interests in athletics, supply houses and trophy manufacturers; (2) the vested interests of the consolidated and almost unionized coaching fraternity; (3) the influence of the professional college coach who looks upon the secondary school as a source for the maintenance of his "winning" reputation; (4) the attitudes developed by these coaches in the physical training schools that are now quite generally attached to state institutions of higher learning; (5) the factor of easy financial support as opposed to harder thinking required to secure adequate health appropriations through taxation; (6) the attitude of the local "sportsmen" and "leading citizens" who are enthusiastically in favor of hippodroming, and (7) the acceptance of the so-called "advertising values" as an easy substitute for a more carefully developed and more difficult public relations program.

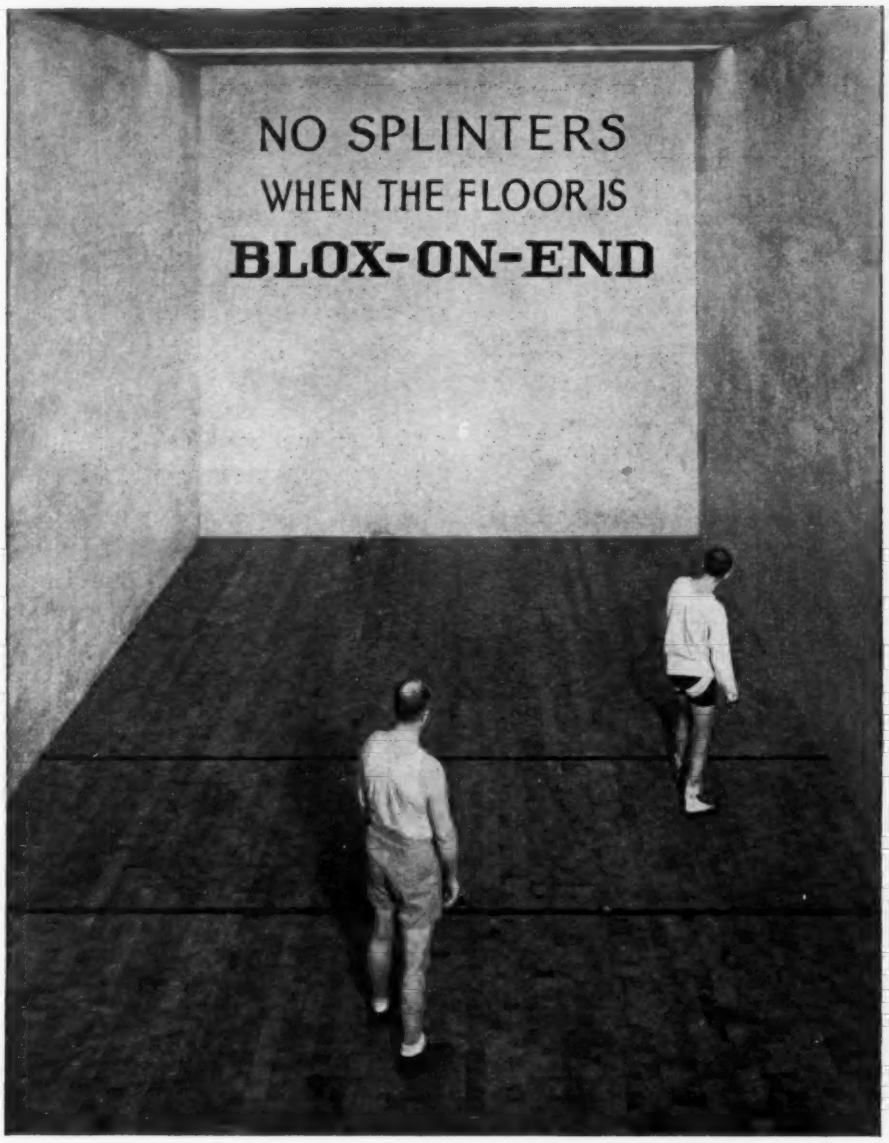
Existing conditions are ripe for a timely and objective study of conditions, together with a constructive program that offers a way out. This service has been rendered by Dr. Frederick Rand Rogers in a recent monograph entitled "The Future of Interscholastic Athletics," published late in 1929 by the Bureau of Publications, Teachers College, Columbia University. This book should be read by every school administrator, secondary school principal and school board member. Its purchase will represent a most profitable personal and institutional investment, provided that it is read with care and that the impulse to improve follows the reading. Doctor Rogers is director of health education in the New York State Education Department. The problem he discusses is one that falls within his own particular field. His conclusions carry much weight. The publication of this little volume should be of utmost significance in the field of health education.

The monograph is divided into three parts. The first six chapters are concerned directly with the future of interscholastic athletics. In the second division four chapters are devoted to the real contribution and function of interscholastic athletic associations. The final division, including two chapters, is concerned with extra-curricular activities.

"Overview" Is Presented

In a brief introductory chapter, Doctor Rogers presents an "overview" of athletics. He traces the major developmental periods of unorganized play, outside control and institutional recognition and organization. He briefly sketches the trend towards the *uber alles* championship ideal that has grown, and he significantly notes in a concluding paragraph some of the countertrends that are taking definite form in many centers.

He next discusses the conditioning factors of



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current interscholastic athletics and makes no attempt to minimize their economic and emotional importance. The traditional influence of the universities and colleges in shaping secondary school athletics as well as academic practice is carefully demonstrated. With respect to the second conditioning factor, he says:

The Rôle of the Newspaper

"Opposed to the deflation of general interest in highly organized and intensely competitive sports is a force of no mean dimensions: the public and its ally and abetter, the newspaper. The trend here is definite and unmistakable in its downward sweep, although already showing some abatement in its rate of increase."

He shows that the newspaper factor will ultimately work itself out through the increase of interest in general sport. This general growth of interest will tend to place the proper proportion of emphasis upon schoolboy competition. His basis for this assertion, however, is rather slim. He selects the *New York Times* as the source of information. While I have observed similar tendencies in recent years in the *Detroit News* and the *Chicago Daily Tribune* in the organization of their sports pages, yet this tendency is so slight when it is compared to the country as a whole and the small town in particular that Doctor Rogers' conclusions in this field appear a trifle more optimistic than the facts immediately warrant.

Another serious conditioning factor is the money involved in the present top-heavy organization of interscholastic athletics. These vested interests represent the manufacturers, the coaches and the sports writers. Doctor Rogers sees an opportunity for the third group in the greater interest developing in the semiprofessional sports, in golf, in tennis and in private club athletics. Increased participation of more individuals in sports upon a changed program would ultimately benefit the manufacturers to a greater extent. Of the second group he says:

"A second army of men more vitally interested in interscholastic athletics than manufacturers of sporting goods is composed of collegiate and scholastic sports coaches. Nor can the influence of these men be discounted as negligible, for the salaries paid for athletic coaching command the services of men who are resourceful, active and tenacious. Only an estimate can be made of their numbers, since so many of them combine coaching with other duties, such as those of high school physical educators. Nevertheless, professional interest is shown in the magazines paid for and read. A clue to their number may be secured from this source. The *Athletic Journal*, the chief publication devoted to athletic coaching subjects, is sold to more than 10,000 regular subscribers, practically all of whom are coaches of secondary school and college athletic teams.

"Probably there are at least 15,000 coaches of interschool sports teams in the United States who would be profoundly affected by any great change in the status of interscholastic athletics. The influence of these men has, in general, been extremely conservative. They may be expected, therefore, to retard any positive development, and certainly will (until they become aware of the larger services which a new régime will offer them) attempt to block any move, the ultimate effect of which might be to destroy public interest in their work."

His most interesting and trenchant observation of the coaching game is contained in a footnote appended to the foregoing quotation.

"Probably there is no collegiate organization so devoid of social value and so pregnant with possibilities for developing unsocial habits and attitudes as the modern university coaching school. Its character is suggested by the nature of its ostensible and real contributions to its students. Ostensibly it trains coaches to train athletic teams which may amuse the public. It performs this service, but actually it appeals and offers aid to the coach who desires above all a 'winning team.' Thus, it prepares coaches to defeat each other .... State monies were better spent on communications with Mars than on collegiate sports coaching schools of this type. . . ."

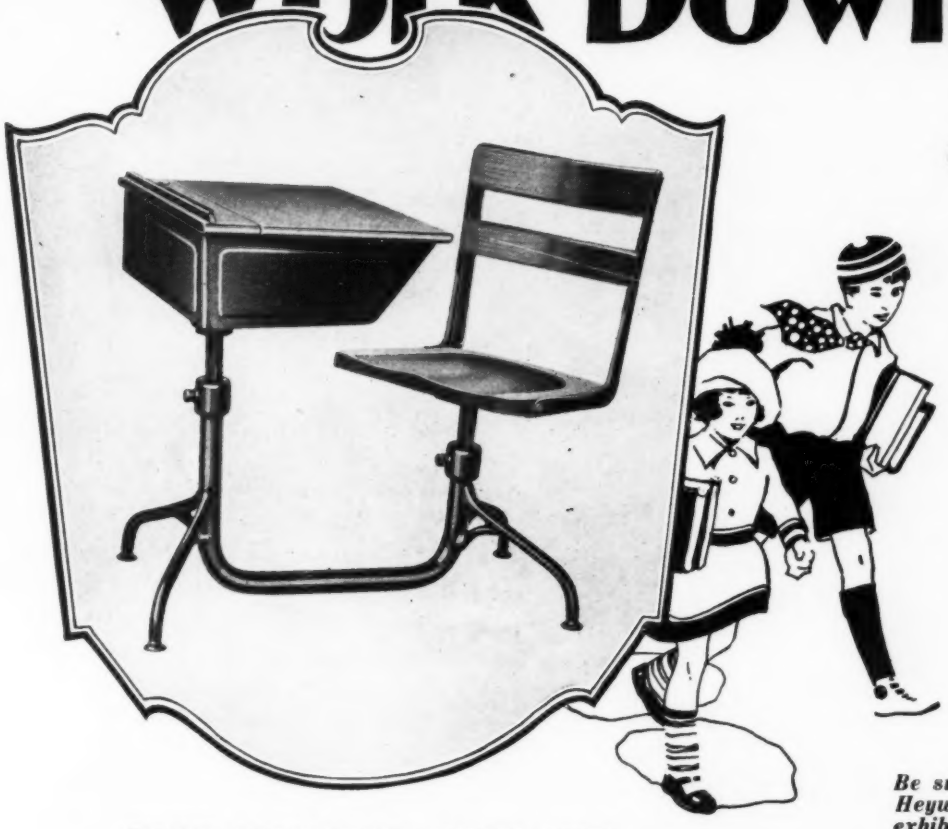
Player Trained for Circus Performance

He then considers the conditioning factor of the relationship of present interscholastic athletics to basic educational theory and practice. Without doubt the two are diametrically opposed as they are now functioning, but Doctor Rogers holds little hope that school administrators will be able to place educational objectives in competition with the power of public opinion and money. While somewhat pessimistic in this respect, Doctor Rogers is certainly justified in his conclusions upon the basis of evidence of constructive educational leadership in the past. It is true, without doubt, that administrators in the past have not exercised the constructive leadership that is their legal and moral responsibility.

Educationally he shows just how the present athletic practice is opposed to educational ideals insofar as the trend of "interschool sport as affected by public interest, the press, and money is in the opposite direction."

"The player is not developed along individual

The Adjustment won't Work Down!



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lines for his own good, but trained for circus performance and victory for the satisfaction of others," writes Doctor Rogers. "In the process health is protected as an acrobat's or a soldier's health is protected—that he may sacrifice his body, his health or even his life on exhibition days while social character is improved only in the narrowest sense of the term.

Spirit of Competition Supreme

"Coaches and other apologists for highly competitive athletics render lip service to cooperation, but in pursuit of championships the spirit of competition is supreme. This is inevitable whenever the objectives motivating players are 'victory' and 'the championship.' It is small wonder, then, that athletes and their mentors, the coaches, are distinguished chiefly by their pugnacious attitudes. Fair play prevails chiefly because it is enforced from above; sympathy and understanding, two of the three corner stones of civilized culture, are at heavy discount owing to their debilitating effects on the will to win.

"In truth, championships, the supreme example of highly competitive athletics, are thought by some to be the very negation of democratic education. The necessary specialization to win supreme honors entails a waste of energy and time and a distortion of outlook which can only drain creative powers and warp the judgments of athletes. Concentration on a few athletes handicaps the teacher in the discharge of his plain duty to others and cultivates false values in the minds of those trained. Innate powers are not permitted to bud and flower naturally but are either forced to premature blossoming for the sake of others' pleasures, or are ruthlessly starved and killed because they do not serve the god of victory in the particular skill being developed. Respect for personality becomes a taunt, and consideration for others a crime.

"If championships are good for school children, an increasing number of serious thinkers are saying to-day, then democracy, social justice, human sympathy, Christianity and training in these qualities are bad for school children. Education and championships, according to these educators, are the strangest and most incompatible of associates."

Doctor Rogers selects for greatest criticism the championship idea. He first gives the case for the championship idea, including the rather dubious arguments in its favor that secondary coaches have learned verbatim from their superior championship drivers in the colleges and universities. He then considers the consequences of the championship motif and the opinions of educational leaders, including the 1929 resolutions of the national council of the National Federation of State High School Athletic Associations.

One of his basic attacks upon championships is that "it is desirable for children to learn more than a single sport and they should at least be exposed to many forms of games they may not enjoy at once or ever. Especially should junior and senior high school pupils become thoroughly acquainted with recreative activities which they may follow during adult life. But these objectives are seldom served by championship events, physical educators almost invariably concentrating on the least valuable types of athletics and the most experienced athletes! Nor does the senior high school provide the proper time or place for teaching new athletic games. Grades 10, 11 and 12 should provide opportunities for specialization, where adult leisure time interests will be established. It is significant that many persons who oppose them in other sports desire state championships in track and field events and cross country races—the very sports least adapted to adult interests and capacities and most dangerous to the health of adolescents."

Doctor Rogers feels keenly that our present organization of interscholastic athletics definitely sacrifices the individual to the welfare of the team, the school and, by implication, to the coach, since his advance and reputation depend largely upon winning teams. With respect to the specific injury to the individual he states:

"The most telling adverse criticism of championship events in the field of interschool sports is that they tend to injure the physical well-being of those players who strive for supreme honors, that is, of all who take the events seriously.

Health Is Endangered

"Even to-day school administrators who are aware of the dangers of overstrain involved in highly competitive athletics require of each player a physician's certificate of competence to participate therein. It must be apparent that if dangers exist in the ordinary interschool contest, the hazards are greatly increased in league championship encounters where players strive harder to win the coveted honors. It follows that as the championship includes a wider and wider area the danger to physical health must be multiplied many times.

"Injuries to health are seldom broadcast following championship events. The general public hears only of the victor, the glory, the heroes. The injury is ignored, but the players who suffer pay a great price for their caps and bells. In-

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creased blood pressure, strained hearts, exhausted tissues, torn ligaments permanently weakened—these are typical of more obvious penalties extorted from adolescent athletes in any honor tournament."

Other serious consequences of championships are the injury to the social character of the individual. Other observers have also noted the undue seriousness of the "winning concept" upon coach and players. The superemphasis placed upon the importance of winning both in secondary schools and in universities takes much of the pleasure out of the game and tends to bring into play baser motives. It now requires at least four major officials to maintain the spirit of fair play in a football game. The effect upon recreative habits tends to be negative and this again is a serious indictment. Our progressive schools spend considerable sums upon generalized health programs, yet the effect appears to be to furnish and develop material for the coaches. The children who need attention and development most do not receive it.

What Are the Alternatives?

The weight of opinion of school administrators and principals, according to Doctor Rogers, now appears to be definitely against the "championship idea" as it is at present interpreted.

After a presentation of these conditions, which constitute a severe and basic indictment of the present organization of interscholastic athletics, Doctor Rogers feels that we have arrived at the crossroads. He offers two major alternatives and suggests a third which he admits is not feasible. The first possibility is a continuation of the present tendency in the Middle West towards more centralized organization and "bigger and better championships." The second is the development of creative athletics for all, with a constantly decreasing emphasis upon the championship idea. The third alternative would be *status quo* without change and that is obviously impossible.

As stated at the beginning of this discussion, Doctor Rogers has performed a brave and intelligent task by his clear statement of the problem and his fearlessness in suggesting the way out. Unlike the average reformer, Doctor Rogers is extremely practical in this thesis and does not suggest any immediate and ill conceived revolution to change present conditions. One of the most worthy features of the entire discussion is the saneness of his approach and the general impression he gives that a gradual shift in emphasis, based upon an intelligent educational program, is possible. His conclusions are educationally sound and extremely practical.

The Value of the Visiting Teacher to the School System

Sioux City, Iowa, which was selected as one of thirty centers for a three-year demonstration of the visiting teacher service by the National Committee on Visiting Teachers seven years ago, has since continued the service as an integral part of its school system. M. G. Clark, superintendent of schools, estimates the value of the visiting teacher to the Sioux City schools as follows:

"Training for good citizenship is the goal of the present day school. In order to accomplish this goal every child must be given a chance to develop, not only his mental capacity but also his personality and other qualities that make for success.

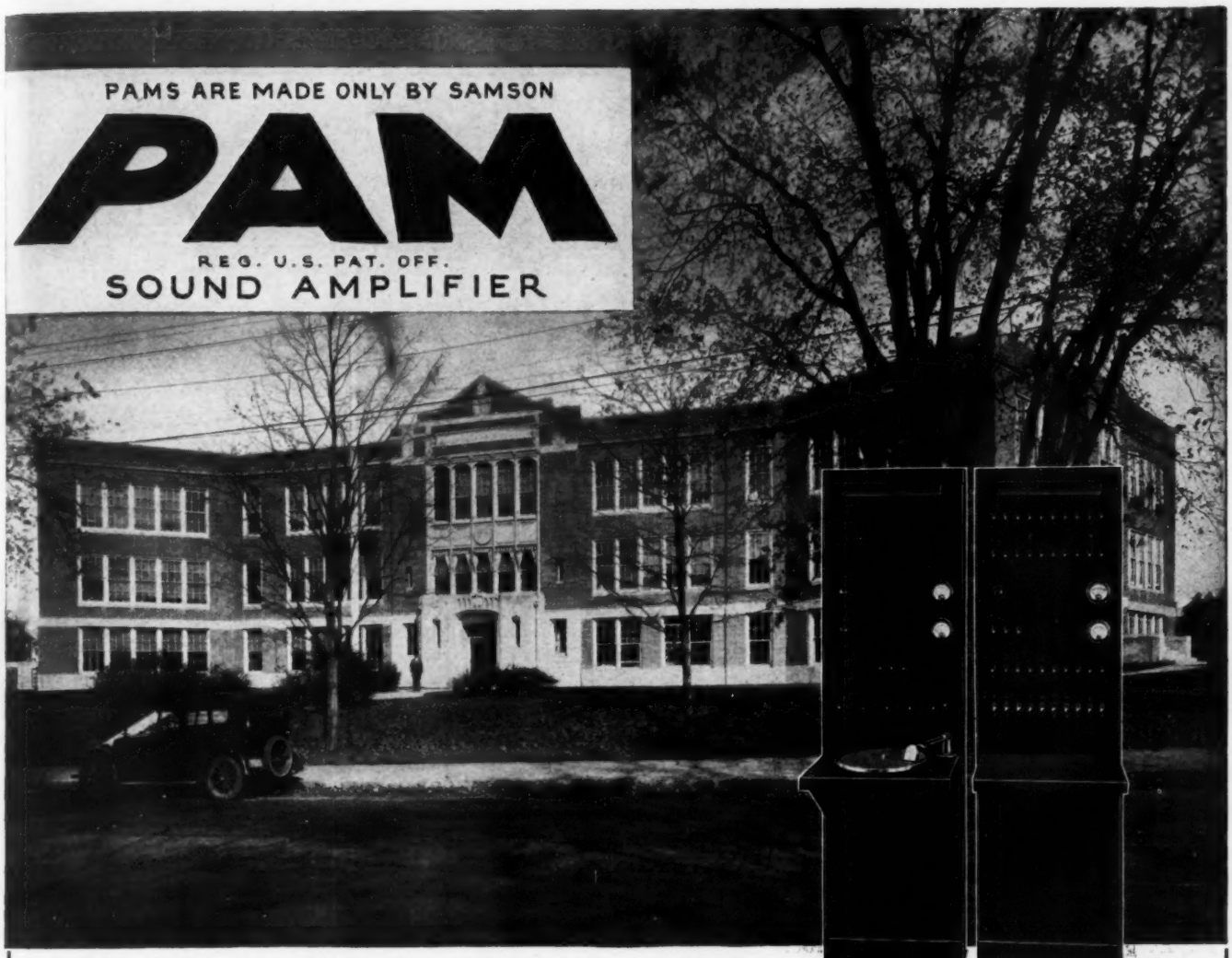
"In every school there are certain children who are average or above in mental ability, yet for one reason or another they fail to adjust themselves to the classroom. Some fail in their work while others present behavior or personality difficulties. The show off, the day dreamer and the lazy child are known to every teacher. These children need special help.

"It is with this group of children that the visiting teacher does her major work. She studies the child to find out the cause of the difficulty. Then, with the cooperation of the home and the school, she redirects the child. We have never made a study of the exact number of problem children in our schools but I think we could safely say that 10 per cent of the children could be benefited by help from the visiting teacher.

"Maladjusted children are often a drawback to other children in the room, because they disturb and take more than their share of the teacher's time. When they fail it means a loss of dollars and cents to the school district.

"In addition to the case work the visiting teacher usually promotes an educational program which is a valuable asset to the school system. We might speak of her as a director of the mental hygiene point of view. It is the purpose of this program to help the teacher, the principal and the parent understand the normal and abnormal behavior of children. This program may be carried on by talks, by group study with teachers and parents, by stories in newspapers or circulars, by reading clubs and by contact with the teacher or parent.

"The visiting teacher also conducts clinics and conferences in the various schools with the regular teachers, discusses type cases and teaches the principles of correct problem solution. In this way, the number of cases referred to the visiting teacher is greatly lessened and each classroom teacher becomes more self-supporting in solving her own room problems."



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Your Every-day Problems

JOHN GUY FOWLKES, THE UNIVERSITY OF WISCONSIN, DIRECTOR

This department will be devoted to an informal discussion of problems arising in the every-day life of principals and superintendents. The following discussions are based on answers to inquiries received recently by the director of the department. Similar inquiries are invited and should be addressed to Dr. John Guy Fowlkes, Department of Education, University of Wisconsin, Madison, Wisconsin.

The Junior College Problem

Recently an inquiry was received concerning the junior college. Inasmuch as the junior college problem is a live one, it is deemed worth while to present in this column some material on the subject. The inquiry is as follows:

"We are anxious to get authentic information on the junior college, particularly with reference to the following points:

"1. Is the number of junior colleges increasing?

"2. Are the majority of these colleges supported by public taxation or are they private institutions?

"3. Would a city of 50,000, many of whose pupils go to college or normal school, be justified in establishing a junior college?

"4. What special needs are the junior colleges supposed to meet?

"5. By about what percentage is the school tax rate increased by establishing junior colleges?

"6. Are junior colleges proving a success in cities where they have been tried?

"If you can answer these questions for us or can refer us to printed material which will give this information, we shall be grateful."

Standards Are Being Established

In answer to this inquiry the following information, supplemented by the accompanying tables, was supplied.

Although the junior college is still a new unit in our educational system, progress has been made in setting up desirable standards for its development. In 1928, twenty-four of the thirty-nine states in which junior colleges were found had set up state standards. For Colorado, Dr. Frederick Lamson Whitney reports that desirable suggestive criteria for the public junior college have been tentatively formulated in the following manner:

Definition: A public junior college is an extension of the public school system in a local school district offering two years of college work beyond the high school level.

Authorization: The electors of a district must favor the proposed junior college course by a two-thirds vote at a special election called on petition by 500 or more qualified electors residing in the school district.

Organizing the College

Criteria for organization: population—the population of the school district shall be at least 10,000; assessed valuation—there shall be an assessed valuation in the school district of at least $10,000,000; available higher education—there shall be no college, university or other institution of higher learning in the district or in the immediate vicinity; status of the lower schools, educational and financial—the objectives and content of the public school offerings in the kindergarten and the first twelve grades shall have been determined by scientific investigation and shall be on a level commensurate with the best professional judgment; the administration of the curriculum shall result in pupil progress at a normal rate and in pupil achievement of both proximate and ultimate goals comparable to that in the more advanced state and local school systems of the country; the district tax rate shall produce adequate funds for the maintenance of the public school program adopted by the administration; state aid for the local school system shall meet the just needs of the situation and, in comparison with total public school revenues, shall be in proportion similar to that in the most advanced state school systems; the compensation of all teachers in the lower schools shall be on a level of professional efficiency and shall compare favorably with salaries in the most advanced public school systems; the cost of instruction per pupil and the total school cost shall compare favorably with costs in the most advanced public school systems.

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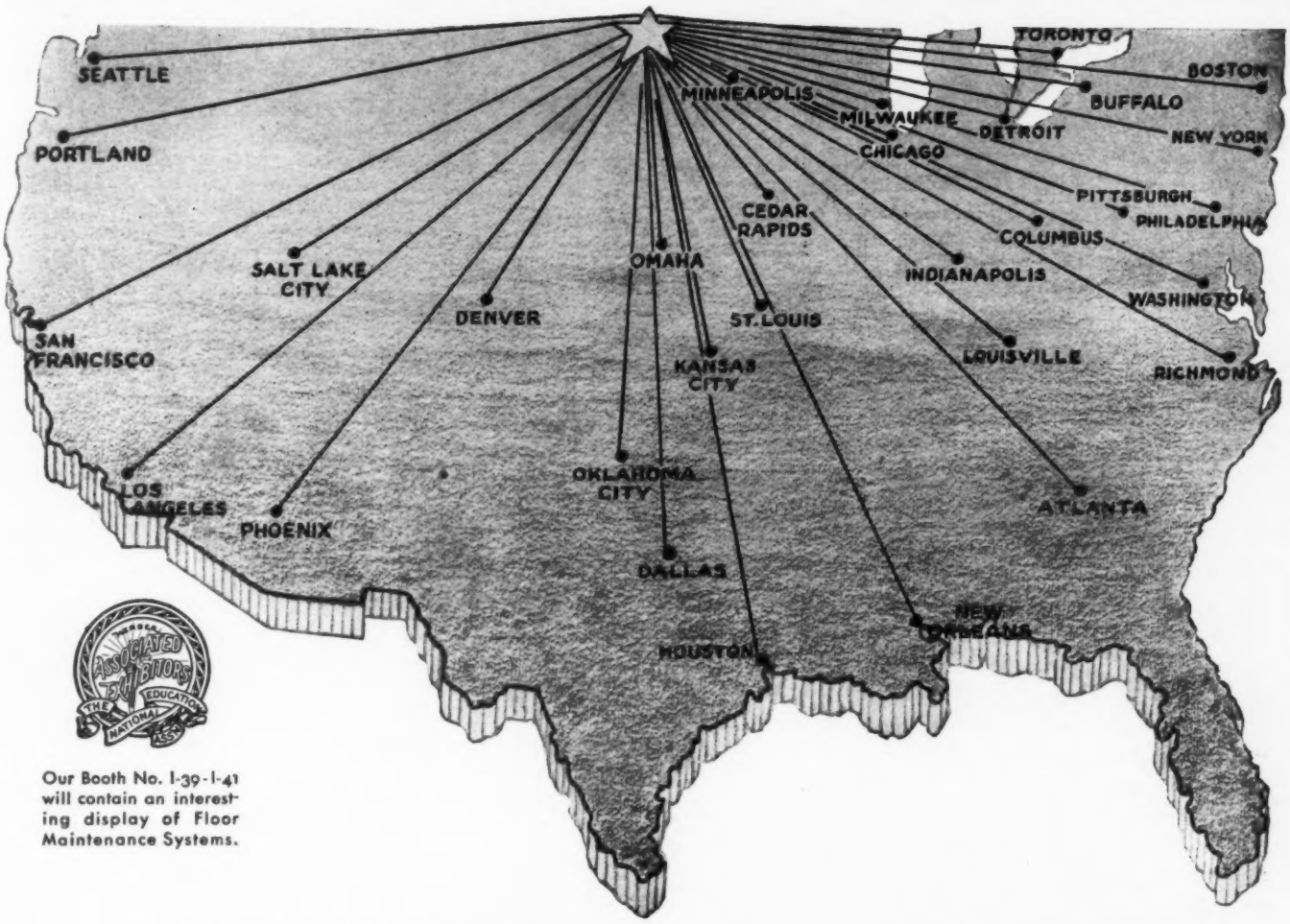

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Concerning the enrollment expectation, the average daily attendance in the local high school for the last two years shall be at least 400 pupils; there shall have been an average of at least 125 graduates from the local high school for the last two years; at least 15 per cent of the high school enrollment shall now be in higher institutions of learning; at least 50 per cent of the high school graduates shall now be in higher institutions of learning; there shall be at least 100 pupils from outside the local district in attendance in the high school; there shall be within a radius of twenty miles at least five high schools doing twelfth grade work; there shall have been an average high school enrollment of at least 450 during the last two years; there shall have been an average of at least seventy-five high school graduates during the last two years.

How Schools Are Inspected

Criteria for continuance and control: inspection and accrediting—an authorized agent of a state standardizing organization shall inspect regularly and report on accrediting to higher institutions of learning; material aspects, such as income, plant and laboratories and equipment and libraries—the minimum annual income shall be at least $20,000 of which $10,000 shall be derived from stable sources other than student tuition and fees; the junior college shall be in a separate hygienic building but may use the library, auditorium, gymnasium and playgrounds in cooperation with the high school; all laboratories and equipment shall be adequate for curriculum needs, which means that laboratories shall have from $1,000 to $3,000 for the initial installation of equipment for each science offered and shall be maintained by means of a sufficient annual budget; the junior college library shall be selected with special reference to college work, shall have at least 2,500 volumes exclusive of public documents and shall have an annual book stock budget of at least $500.

The enrollment in the junior college shall be at least 150 students, approximately 100 of whom shall be in the first year and 75 per cent of whom shall be taking courses leading to graduation (not special students). Unconditional entrance shall be on the same basis as to the state university. The curriculum, in both objectives and content, shall conform closely to the standards of higher accrediting institutions, may be developed to suit the changing needs of the community, but must maintain a justifiable relation to the resources and development of the junior college.

There must be at least five instructors for each 100 junior college students, each directing the major part of his time to junior college instruction and teaching in the field of his specialization. Teachers must have had an adequate background of successful teaching experience and must have engaged in recent graduate work resulting in a master's degree. Salaries shall be large enough to employ and retain well trained and experienced teachers and shall be larger than high school salaries in the same system. Teachers shall not have a teaching load of more than eighteen hours a week.

Standards for classwork shall be on a college level including no high school pupils in junior college classes, a maximum of thirty students

TABLE I—THE NUMBER OF PUBLIC AND PRIVATE JUNIOR COLLEGES, 1927-28*

State	*Public*	*Private*	*Total*
1. Alabama		2	2
2. Arizona	1	1	2
3. Arkansas	8	4	12
4. California	31	5	36
5. Colorado	2	3	5
6. Connecticut	0	3	3
7. District of Columbia	0	6	6
8. Florida	2	2	4
9. Georgia	1	4	5
10. Idaho	1	0	1
11. Illinois	5	10	15
12. Indiana	0	5	5
13. Iowa	19	7	26
14. Kansas	9	9	18
15. Kentucky	0	15	15
16. Louisiana	3	8	11
17. Maryland	0	5	5
18. Massachusetts	0	5	5
19. Michigan	6	1	7
20. Minnesota	7	7	14
21. Mississippi	7	6	13
22. Missouri	7	17	24
23. Nebraska	1	6	7
24. New Jersey	0	1	1
25. New Mexico	1	0	1
26. New York	0	9	9
27. North Carolina	0	13	13
28. North Dakota	2	0	2
29. Ohio	0	4	4
30. Oklahoma	9	5	14
31. Oregon	0	1	1
32. Pennsylvania	1	3	4
33. Philippine Islands	1	1	2
34. South Dakota	0	3	3
35. Tennessee	1	15	16
36. Texas	17	25	42
37. Utah	1	4	5
38. Virginia	0	11	11
39. Washington	2	4	6
40. West Virginia	1	3	4
41. Wisconsin		3	3
Total	146	236	382
Per cent	38	62	100

*Whitney, Frederick Lamson, The Junior College in America, p. 8

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in a group except for lectures, and a maximum student load of sixteen hours a week. A minimum of ninety-six quarter hours of credit, equivalent to work in the state university, shall be required for graduation and may result in an associate degree, certificate or diploma only. All junior college records must conform to the best standards in other higher institutions of learning and shall include complete cumulative personal data for each student enrolled in the college.

Analyzing the Costs

Regarding junior college costs Doctor Whitney summarizes the situation as follows:

"Student unit costs in representative four-year institutions of higher learning are from about $150 per year to nearly $600. An approximate central tendency for student unit costs in standard four-year colleges and universities is $400 per year. Student unit costs in the third and fourth years of four-year colleges are over 50 per cent higher than in the first and second years.

"The central tendencies of pupil unit costs in American secondary schools in $173.72 per year. Extremes of unit costs are reported from $117 per year in Wisconsin to $193.90 in Arizona. High school costs are as a rule at least two and one-half times elementary school costs.

"The cost of instruction in junior colleges ranges from about $83 per student in the largest colleges to nearly $170 in the smallest schools. The total student unit junior college cost ranges from about $100 to nearly $500. Instruction uses from 75 per cent to 80 per cent of the total budget in junior college costs.

"The correlation of size of enrollment in the junior college to total cost is $+0.86 \pm .03$. Large enrollments in the junior college mean large district expenditures, even though student unit costs be reduced. At least 75 per cent of all factors determining the total cost of maintenance of the junior college are found in the size of the student body.

"Undoubtedly local taxes will be increased in any district if high school education is extended to include two years more beyond the twelfth grade. Necessary increase of local mill levies will, of course, not be as great, if funds are derived from tuition and from state aid. State aid, if extended to the local junior college in like proportion as to the elementary school, will be but a negligible addition to the budget of the junior college."

TABLE II—INCREASE IN NUMBERS OF PUBLIC AND PRIVATE JUNIOR COLLEGES*

Item	*1921-22*	*1926-27*	*1927-28*
1. Public	52	129	146
2. Private	137	189	236
Total	189	318	382

*Whitney, Frederick Lamson, The Junior College in America, p. 9

TABLE III—HIGH SCHOOL ENROLLMENT ATTITUDES REGARDING THE ESTABLISHMENT OF JUNIOR COLLEGES, 1927*

Enrollment	*Attitude*
2,000 or over	Strongly encouraged
1,000-2,000	Encouraged, if local conditions are favorable
600-1,000	"Allowed only in most unusual circumstances"
600 or less	Show community not advisable

*Whitney, Frederick Lamson, The Junior College in America, p. 182

Anyone wishing to make a thorough study of the junior college problem should not fail to read Doctor Whitney's book, "The Junior College in America," published by the Colorado State Teachers College, Greeley, Ohio.[1]

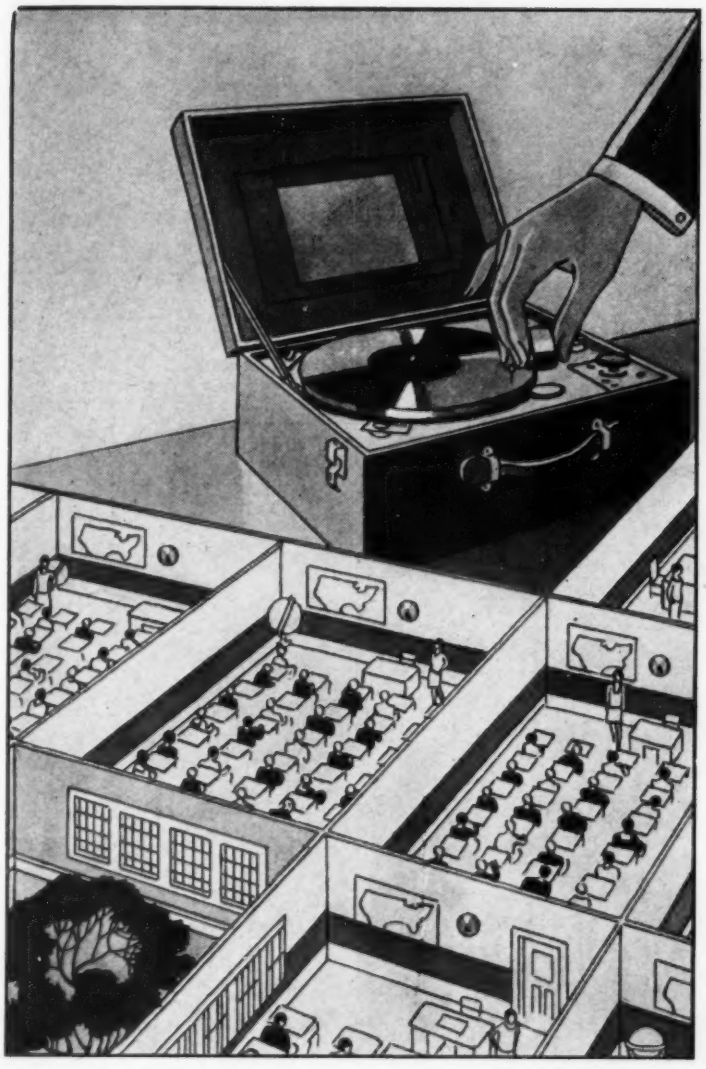
When Should a Junior High School Be Organized?

An inquiry received recently concerning the organization of a junior high school is as follows:

"I should like to have your opinion on the following question: Would you consider a city of 7,000 large enough to have a junior high school? The total enrollment of the system is about 1,000. There are thirty-five teachers in the system and the assessed valuation is about $9,000,000, the present maintenance tax is seventy cents and the sinking fund is eighteen cents."

Unfortunately, there is no scientific criterion by which this inquiry can be answered. However, since receiving the letter, I have taken occasion to question several administrative officers in local school systems as well as members of departments of education in two colleges and three universities. It seems to be the general opinion that it would probably be better to maintain a 6-6 plan of organization than to attempt the installation of a separate junior high school. I should be interested in knowing whether this opinion is concurred in by the readers of this column.

[1]Other publications that will also prove helpful are:
Clark, H. F., Junior College Costs, The Normal Advance, Vol. XXXV, Terre Haute, Ind. (April, 1928).
Koos, Leonard V., The Junior College Movement, Ginn and Company, Boston, Mass., 1925.
O'Brien, F. P., College Standards and a Public Junior College, Bulletin No. 5. University of Kansas, Lawrence, March 1, 1926.
Reeves and Russell, College Organization and Administration, Board of Education, Disciples of Christ, Indianapolis, Ind., 1929.



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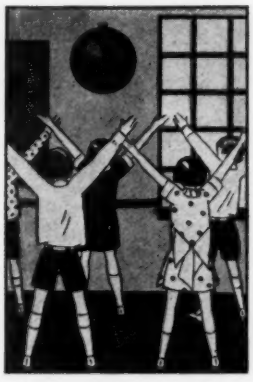

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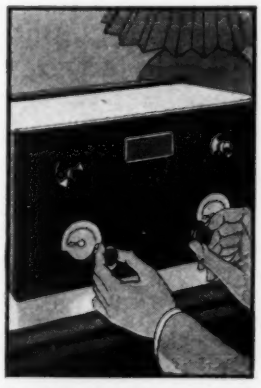

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News of the Month

North Central Association to Meet in Chicago, March 18-21

In order to allow sufficient time to elapse following the meeting of the Department of Superintendence in Atlantic City, N. J., the North Central Association of Colleges and Secondary Schools will hold its annual meeting a week later than has been the custom in former years. The meeting this year will be held March 18-21. The sessions will be held, as formerly, at the Hotel Stevens, Chicago. The open sessions of the three commissions of the association will be held on Wednesday, March 19, and the general association will meet on Thursday and Friday, March 20 and 21.

The program will include reports on the following topics: "The Success of High School Graduates in College"; "A Comprehensive Statistical Report on the Secondary Schools"; "College Entrance Requirements in English"; "Science Teaching in North Central Schools"; "Experimental Work in Secondary Education"; "The Status of Athletics in Colleges and Secondary Schools"; "Minimum Library Standards for High Schools." A discussion of the national survey of secondary education as well as a discussion of the activities of the national advisory committee on education will be special features of this program. Papers on other problems in the field of the organization and the administration of secondary schools will also be presented.

Special railroad rates have been granted for the annual meeting.

There are at present on the approved lists of the North Central Association 2,244 secondary schools, forty-four junior colleges, forty-four teacher training institutions and 189 colleges and universities. The association is a voluntary organization.

Further information concerning the coming meeting may be had by writing the chairmen of the state committees or the secretary, Dean J. B. Edmonson, University of Michigan, Ann Arbor.

Busy Year Predicted for School Architects

Schools now occupy second place in the general building market of the country, according to the national building forecast for 1930 made by C. Stanley Taylor, director of research, National Trade Journals, Inc., publishers of the *Architectural Forum*. Valuation of new school construction during 1930 is estimated at $640,854,600, an increase of $43,072,800 over last year's figure, $597,781,800.

Office buildings comprise the only type of construction the value of which will exceed the value of educational buildings erected during 1930, it is believed. The special fields and their percentage ratios to the total building program, ranged by size, are as follows: office buildings, 13.5 per cent; schools, 12.8 per cent; apartments, 10.9 per cent; hotels, 7.8 per cent; hospitals, 7.4 per cent; public buildings, 6.3 per cent; industrial, 5.7 per cent; churches, 4.3 per cent; apartment hotels, 4.2 per cent; automotive, 3.4 per cent; stores, 3.3 per cent; clubs, 3.2 per cent; dwellings ($20,000 to $50,000), 2.7 per cent; welfare, 2.8 per cent; banks, 2.7 per cent; dwellings (below $20,000), 2.7 per cent; dwellings (over $50,000), 2.3 per cent; theaters, 1.9 per cent; community buildings, 1.8 per cent.

Changes in the demand for new educational buildings in the chief geographic districts of the country are shown in the following tabulation of percentages of total construction for all classes of buildings:

Geographical District:	*1929 Forecast Per Cent*	*1930 Forecast Per Cent*	*Change Per Cent*
North Atlantic States.....	8.4	11.2	2.8
Northeastern States	16.8	11.8	—5.0
Southeastern States	9.3	14.0	4.7
Middle States	14.4	13.7	—0.7
Western States	9.8	12.1	2.3
Southwestern States	16.5	15.9	—0.6
37 States East of Rockies..	11.7	12.8	1.1

Accuracy of the forecasts in the entire building field is apparent from a comparison of the 1929 forecast with the actual contracts awarded in the same year. The forecast for 1929 was $5,116,773,200; the contracts actually awarded during 1929 totalled $5,754,290,500, for all types of buildings.

Jersey City Will Soon Have New School

Our Lady of Czestochowa School, Jersey City, N. J., will be ready for occupancy some time during the month of February. The new building, costing about $230,000, is fireproof; it is three stories high and is constructed of brown and yellow mixed brick.

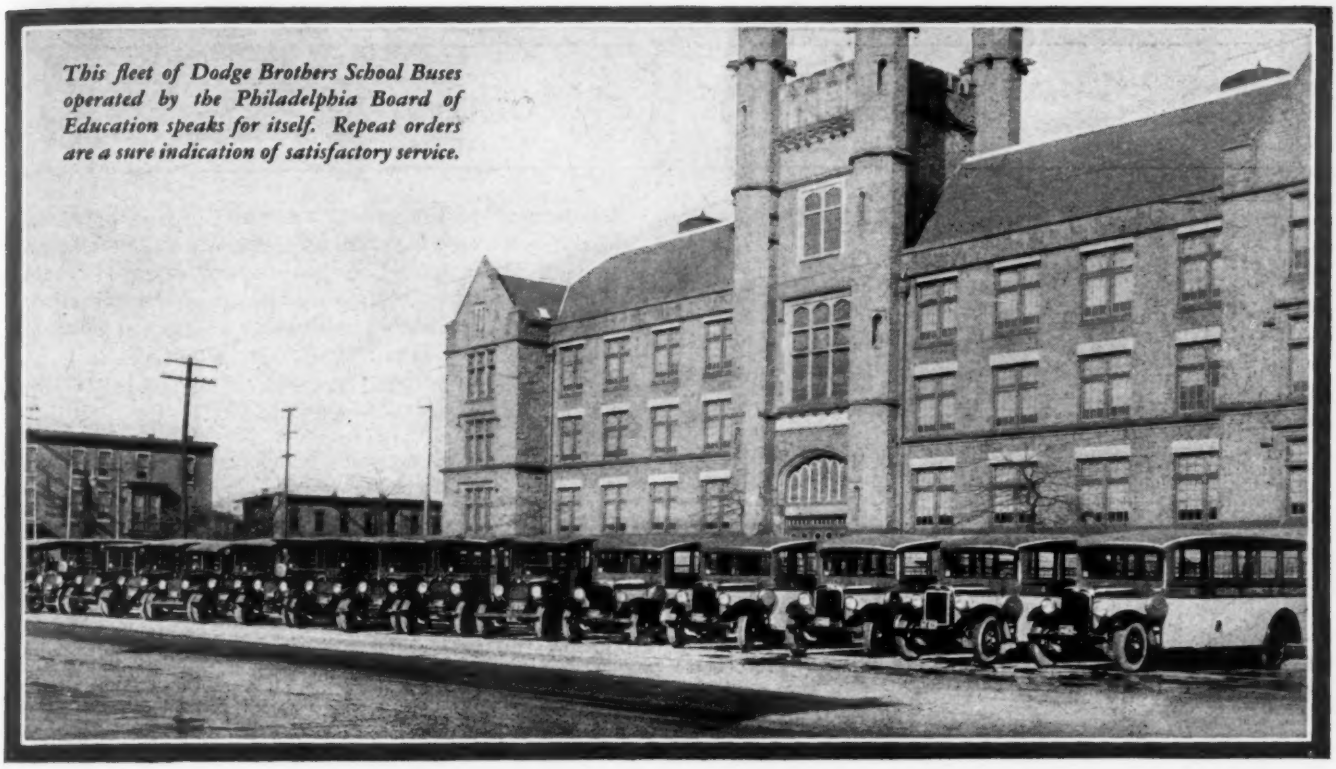
Some of the features of the new building will be a large and a small auditorium, with up-to-date scenery and lighting effects, and a roof garden and playground on top, well protected by a four foot wall and fence.

Seventeen large, airy classrooms and offices for the principal and nurses will be provided.

Rev. Leon A. Godlewski is principal of the school.

Public School Business Officials Will Meet in New Orleans

The National Association of Public School Business Officials will hold its annual convention in New Orleans, May 26 to May 30.



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News of the Month

Progressive Education Association to Meet in Washington

The tenth annual conference of the Progressive Education Association will be held at the Hotel Willard, Washington, D. C., April 3, 4 and 5, 1930. A significant program has been prepared, which will include such speakers as Robert S. Lynd, Eduard C. Lindeman, George A. Coe, Dr. Hamilton Holt and Dr. Ray Lyman Wilbur, secretary of the interior.

The general topic of the conference will be "Education and the Larger Life." One prominent feature will be a series of group discussions arranged in such a way as to allow continued sessions with summaries. Leaders in various phases of the practice of education have been secured as speakers. Provision has been made for school visiting, exhibits and sight-seeing. There will be an opening reception and tea, and the annual banquet.

Doctor Montessori Will Lecture in Rome

Dr. Maria Montessori recently returned to Rome to conduct her fifteenth international course in education, according to the *Journal of Education*. The lectures, to continue until June, will be under the auspices of the government, and Mussolini has offered his support.

The lectures will be given in Italian and will be translated into several European languages. The course will consist of sixty theory lessons, seventy practical lessons on the use of didactic material and fifty sessions for observation and individual instruction. Doctor Montessori states that the course will touch only lightly on the reform of education in the secondary schools but will be devoted to the study of psychology as revealed by children who have been taught by the Montessori method.

This is the first time that modern Italy has taken official interest in a particular method of education.

Teachers of Education to Meet in Atlantic City in February

An important meeting to be held in Atlantic City at the same time the Department of Superintendence meets is that of the National Society of College Teachers of Education, which will convene on February 24, with headquarters at the Hotel Chalfonte-Haddon Hall.

Edward H. Reisner, Teachers College, Columbia University, president of the society, will preside at the opening meeting on Monday afternoon when the general topic "The Integration of Subject Matter and Professional Courses in the Training of Teachers" will be considered.

On Tuesday morning the members will meet in sectional groups for round table discussions. F. B. Knight, University of Iowa, will preside at the session for those interested in educational psychology, and the topic will be "The Basic View of Learning for Beginning Students of Education."

A report of the committees on state histories of education will be presented by Stuart G. Noble, Tulane University, New Orleans, before the section devoted to the history of education, while a discussion of the affiliations of the history of education with other college departments will be led by H. G. Good, Ohio State University.

H. O. Rugg, Teachers College, Columbia University, will preside at the session considering the philosophy of education.

The section of educational sociology will devote its entire session to a discussion of the year book of the National Society for the Study of Educational Sociology, "Economics and Education," with D. H. Kulp, Teachers College, Columbia University, in the chair.

Florence E. Bamberger, Johns Hopkins University, and Prof. Leonard V. Koos, University of Chicago, will be in charge of the sections on elementary and secondary education. The final sectional meeting, with M. G. Neale, University of Missouri, presiding, will have as its general topic, "Educational Administration."

Elwood P. Cubberley, dean, School of Education, Leland Stanford Junior University, will be the principal speaker at the luncheon following the Tuesday morning sessions.

"The Requirements for the Doctor's Degree in Education" will be the topic of the program presented on Tuesday afternoon when the National Society of College Teachers of Education will meet in joint session with the American Educational Research Association. Frank N. Freeman, University of Chicago, will preside.

At the final meeting on Wednesday morning, interesting papers will be given by Ben D. Wood, Columbia University; S. A. Courtis, University of Michigan, and Dr. Henry Suzzalo, director, National Advisory Committee on Education. Clifford Woody, University of Michigan, will preside.

Year's Big Gifts Favor Educational Institutions

A review of the great philanthropic gifts and bequests of 1929 shows that educational institutions benefited largely in this manner.

Among the anonymous gifts were $3,000,000 to Johns Hopkins University; $250,000 to Harvard University; $207,000 to New York University, and $175,000 to Columbia.

Other important donations were: F. C. Austin, Chicago, $2,000,000 to Northwestern University, for the F. C. Austin Scholarship Foundation; George F. Baker, New York City, $1,000,000 to New York University; Bancitaly Corporation, $975,000 to the University of California, in tribute to Giannini; Otto Tremont Bannars, New York City, by will, $2,000,000 to Yale University; Edward S. Harkness, New York City, $11,390,000 to Harvard University, $2,525,000 to Columbia University and $1,000,000 to the Near East College Association; William J. Connors, Buffalo, N. Y., by will, $1,000,000 to Clarkson College, Potsdam, N. Y.; Frederick Brown, $2,000,000 building at Washington Square, New York City, to New York University.

New Teaching Helps for 1930
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EACH year the L C Smith & Corona School Department renders valuable aid to schools where typewriting is taught.

Every year, hundreds of vocational high and commercial schools receive free and without obligation the various teaching helps, typing tests, student practice material, etc. prepared by the School Department.

The Department's latest help is a booklet prepared by D. D. Lessenberry. It is called "Corrective Drills" and is not intended as a typewriter text but as a supplement to whatever text may be used. In presenting these drills in booklet form we hope they will continue to serve the needs of teachers and pupils.

L C SMITH & CORONA TYPEWRITERS, INC.
School Department, Syracuse, N. Y.

News of the Month

Educational Specialists Begin Work on National Survey

Dr. Leonard V. Koos and E. S. Lide have reported in Washington for work with the National Survey of Secondary Education now in progress under the direction of the United States Office of Education, Department of the Interior.

Doctor Koos holds the position of professor of secondary education at the University of Chicago. Previous to last September he had, for a number of years, occupied a similar position in the University of Minnesota. He distinguished himself recently as director of the survey of secondary education conducted in California in 1928. He is also the author of a number of notable books, especially on the junior high school and the junior college. Secretary Wilbur has named Doctor Koos associate director of the survey.

Mr. Lide has been appointed specialist in curriculums and allied fields. He has held administrative positions as principal and superintendent of schools in various cities of Arkansas and Oklahoma. During the school year 1928-29 Mr. Lide directed the work of curriculum revision conducted by city school systems of Arkansas under the leadership of the University of Arkansas.

Commissioner William J. Cooper, director of the National Survey of Secondary Education, has assigned various members of the regular staff of the Office of Education to work with the survey. Under the provisions of the authorization from Congress, specialists from the field may be employed for temporary service. Doctor Koos and Mr. Lide are the first two thus appointed to report for duty in Washington.

Committee Studies Negroes' Problems

The first of a series of conferences being held by the National Advisory Committee on Education convened at the Department of the Interior, January 14, to gain a clear understanding of the problems of federal relations to Negro education, the chairman, Dr. Charles R. Mann, stated, in summarizing the results of the meeting.

Information necessary to arrive at a proper understanding of the problem, Dr. Mann said, centers about three questions: What is being done, what should be done, and what obstacles are in the way of realizing the proper relations between the government and the Negro in his educational training.

The conference discussion was reduced to three outstanding matters of importance: first, the distribution of federal grants for land grant college education in proportion to population as between the Negro and the white student, and the appropriation of funds for experiment stations. Doctor Mann said that the conference brought out the fact that a relatively small amount of money went to Negro education of this character, in comparison with what goes to white education upon a basis of population. In Alabama, it was pointed out, there are six demonstration farms for the training of white farmers, but none for Negroes, although the Negro population is very great.

A second matter of importance before the conference was the recognition of the development of the Negro to a point of capacity in research and in participation in experimentations in the land grant colleges. It followed, Doctor Mann explained, that they should be given opportunity to put their abilities into practice.

Doctor Mann said the third matter involved a question of whether the inequalities of educational opportunities to the Negro can be corrected under the present system; that is, whether the Department of Agriculture and the Federal Board for Vocational Education can bring about the needed corrections alone, or whether a special act by Congress will be necessary.

The series of conferences now in progress, Doctor Mann explained, attended by representatives of both races, will endeavor to answer these questions in an effort to formulate recommendations for the removal of obstacles in the way of a more equalized distribution of funds for the education of the Negro. Presidents of three Negro land grant colleges were present.

British Hold Conference on Educational and Cultural Films

At a conference held recently in London under the presidency of Prof. John L. Myers, Oxford University, it was decided to establish an authoritative Commission on Inquiry and Recommendation in connection with educational and cultural films.

According to a recent issue of *School and Society*, this committee, acting in conjunction with the British Institute of Adult Education, drew up a project for the purpose of "considering the suggestions for improving and extending the use of films for educational and cultural purposes" and for "raising the standard of public appreciation of films." The committee will also collect and publish information as to films already in existence for the use of teachers; review educational films for the guidance of the producers of films; collaborate in the choice of subjects; examine and certify the subjects of films proposed for importation with a view to circulating foreign films of educational value, and facilitate the distribution of films by organizing the demand and reducing the cost of production through special arrangements made with producers and distributors.

University Business Officers to Meet in May

The next annual session of the Association of University and College Business Officers will be held on Thursday and Friday, May 22-23, 1930, at the University of Colorado, Boulder.

R. B. Stewart, comptroller, Purdue University, Lafayette, Ind., is president of the association; F. H. Wolcott, comptroller, University of Colorado, is vice-president, and Charles A. Kuntz, comptroller, Ohio State University, Columbus, is secretary-treasurer.

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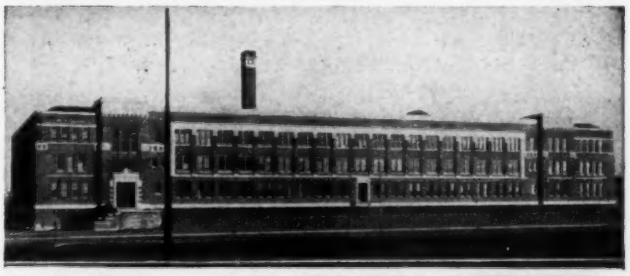

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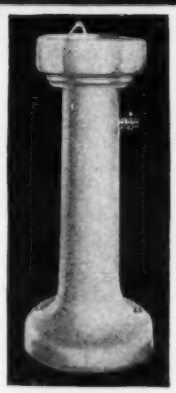

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In the Educational Field

DR. PARK SCHOCH is the new assistant superintendent of schools, Philadelphia. DOCTOR SCHOCH, for three years principal of the Overbrook High School, Philadelphia, will succeed DR. GEORGE WHEELER.

CHARLES S. ALBERTSON, who for thirty-nine years has been county superintendent of schools at Magnolia, N. J., will resign in the near future.

DR. ARTHUR FISKE WARREN, for nineteen years head master of the Collegiate School, New York City, the oldest private secondary school in the United States, recently retired as active head. CORNELIUS BRETT BOUCOCK will succeed DOCTOR WARREN.

WILBUR FISK GORDY, nationally known educator and author of history textbooks, died December 22, at Hartford, Conn.

G. C. BOSWELL, formerly head of the schools of Byers, Texas, was recently made superintendent at McLean, Texas.

FRANCIS PARKMAN has accepted the headmastership at St. Mark's School, Southboro, Mass. MR. PARKMAN comes to St. Mark's from Harvard, where he was instructor and tutor in history.

JAMES C. FOOTE, JR., Caledonia, N. Y., will succeed JOHN P. MAGEE as superintendent of schools at Geneseo, N. Y.

DR. T. O. BAKER retired as superintendent of schools of Brooklyn, N. Y., on February 1. DOCTOR BAKER is seventy years old.

LAWSON J. CANTRELL has been named principal of the new Paul Junior High School, Washington, D. C.

H. W. DEWEY is the new principal of the University High School of the University of Chicago, according to an announcement made by Robert Maynard Hutchins, president of the university. ROBERT C. WOELLNER, the former principal, has been appointed executive secretary of the university placement bureau.

R. C. WILLIAMS, head of the schools at Jesup, Iowa, has resigned to accept a position with the state department of education. ROLAND ESSLINGER will succeed MR. WILLIAMS.

JOSE PADIN was recently nominated commissioner of education to Porto Rico and the nomination was confirmed by the senate.

GEORGE L. MCCULLOCH was recently elected superintendent of schools at Jackson, Mich. MR. MCCULLOCH, who has been assistant superintendent for several years, will succeed E. O. MARSH, who has resigned.

HENRY J. GERLING, acting superintendent of schools, St. Louis, was elected president of the Missouri State Teachers Association at its recent meeting.

DR. WILLIAM B. MUNRO, Jonathan Trumbull professor of American history and government at Harvard University, has been elected president of the American Association of University Professors, to succeed PROF. HENRY CREW of Northwestern University.

PROF. JAMES HENRY BREASTED, director of the Oriental Institute and chairman of the department of Oriental languages at the University of Chicago, has been elected a member of the Egyptian Dictionary Commission. Thirty-three years ago the German emperor provided funds for a commission to assist in a compilation of an Egyptian dictionary. The first three volumes and half of the fourth are already off the press. The publication will require several years for completion. JOHN D. ROCKEFELLER, JR., is financing the work. PROFESSOR BREASTED is the first foreign scholar to be honored with a place on the commission.

LOUIS P. BENEZET, superintendent of schools, Manchester, N. H., was recently elected president of the New England Association of School Superintendents.

PROF. BYRON SATTERLEE HURLBUT, professor of English at Harvard University, died recently at the age of sixty-four years.

PROF. JOHN DOLMAN, of the University of Pennsylvania, was elected president of the National Association of Teachers of Speech, at the annual meeting.

C. C. WHISEHUNT, for twelve years superintendent of schools at Shreveport, La., died recently.

H. E. JENKINS is the new superintendent of schools at Girard, Kan. MR. JENKINS succeeds WALTER WALLACK, who recently resigned to accept an educational position in Haiti.

HOWARD W. ELLIOT has succeeded C. H. JOHNSON as superintendent of schools, Three Forks, Mont.

LOUIS K. ROURKE has been elected superintendent of construction of Boston public school buildings by the new schoolhouse commission.

PROF. DAVID HARRISON STEVENS, associate dean of the faculties of the University of Chicago and assistant to the president, has been appointed director of college education of the General Education Board. In this new position, PROFESSOR STEVENS will study the educational policies, methods and needs of colleges of the country.

D. J. BOONE, superintendent of schools, Lorain, Ohio, was elected president of the Ohio Education Association at its holiday session.

CHARLES S. MCVAY, formerly superintendent of schools, East Liverpool, Ohio, is now associated with Little, Brown and Company, Boston, as representative for New York and Pennsylvania.

DON G. LONGENNECKER is principal of the new Fairview High School, recently dedicated at Dayton, Ohio.

DR. EVA MAY LUSE, head of the department of teaching of Iowa State Teachers' College, will be one of the representatives from the United States at an international conference on the teaching of mathematics, which will meet in the near future at Bologna, Italy.

DR. DAVID FELMLEY, president of the Illinois State Normal University for nearly thirty years, died at his home at Normal, Ill., on January 24, at the age of seventy-two.

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In the Educational Field

DR. HANS FROELICHER, acting president of Goucher College, Baltimore, died suddenly on January 17. DOCTOR FROELICHER had been with Goucher College since 1888. DR. DOROTHY STIMSON, a graduate of Vassar College, and dean at Goucher since 1921, has been appointed acting president to succeed DOCTOR FROELICHER.

W. L. DOWNS, superintendent of schools at Vidalia, Ga., has been appointed state high school supervisor. MR. DOWNS will succeed the late E. A. POUND.

E. O. MARSH, superintendent of the schools at Jackson, Mich., for eighteen years, has announced his resignation. GEORGE L. MCCULLOUGH, acting superintendent, will continue in that capacity.

MATILDA GRAY, principal of St. Agnes' School for Girls, Albany, N. Y., for seventeen years, has resigned and will open a residence hall for students at Geneva, Switzerland. BLANCHE PITTMAN, formerly principal of All Saints' School, Sioux Falls, S. D., will succeed MISS GRAY.

KARL F. ADAMS, for seven years superintendent of schools at Santa Cruz, Calif., died on December 28, at the age of forty-six.

THOMAS R. COLE, superintendent of the schools at Seattle, Wash., for nineteen years, recently handed in his resignation.

H. G. TAFT, for seven years superintendent of schools of Eau Claire, Mich., has tendered his resignation, to take effect at the end of the school year.

JOHN S. CRANOR, Oak Park, Ill., has been appointed general superintendent of the reformatory at Pontiac, Ill. MR. CRANOR has been superintendent of schools at Gibson City, Sandwich and Wheaton, Ill.

R. O. BAGBY has handed in his resignation as superintendent of schools of Buena Vista, Va. MR. BAGBY has accepted the position as supervisor of public instruction of the city schools of Roanoke, Va., and will take up his new duties on March 1.

CHARLES L. STEPHENSON has been appointed superintendent of schools of the Sheffield, New Marlboro and Mt. Washington districts in Massachusetts. MR. STEPHENSON has been principal of the high school at Lee, Mass., for seven years.

J. B. RUSSELL, for thirty years superintendent of schools of Wheaton, Ill., died recently, at the age of seventy.

CHARLES C. HUGHES was recently reelected superintendent of schools at Sacramento, Calif.

MERVIN D. LOSEY, for thirteen years superintendent of schools, Northport, N. Y., has resigned his post and will retire with a New York State pension. LYLE L. MORRIS, assistant superintendent of schools, White Plains, N. Y., has been named to take MR. LOSEY'S place.

WINFRIED C. AKERS, headmaster of the high school of Brookline, Mass., for the past seventeen years, has handed in his resignation.

MILLARD MOORE, for the past nine years superintendent of the school union at Ashfield, Mass., has been elected superintendent of the school union that includes the towns of Southwick, Granville, Tolland and Sandisfield, Mass. EUGENE E. CURRIER will take MR. MOORE'S place at the Ashfield school union.

FRANK H. BOREN, district superintendent of the San Mateo Union High School, and the San Mateo Junior College, San Mateo, Calif., and the Burlingame Union High School, Burlingame, Calif., died recently from injuries received in an automobile accident.

IRA S. BRINSER, superintendent of schools, Newark, Del., was elected president of the Delaware State Education Association for the coming year.

Doctor Ganders Accepts Deanship at Syracuse Teachers College

Dr. Harry S. Ganders has recently taken over the duties of dean at Teachers College of Syracuse University, Syracuse, N. Y.

The territory logically served by Syracuse University includes central New York and a circumference that includes New England, Delaware on the east, Ohio on the west, and sections of Ontario and Pennsylvania on the north and south.

Yale to Have Health Department Building

Yale University is providing additional safeguards for the health of its students by erecting a four-story health department building. Architecturally, the building will correspond with the newer Gothic structures at Yale.

Two sub-basements will be provided which will contain the complete x-ray equipment, including fluoroscopic and dark rooms, a physical therapy suite, with apparatus for light and heat treatments, a sterilizing room and an isolation room for examination of patients with contagious diseases.

The main floor will have a reception room, general offices, record rooms, small reception rooms, a woman's suite with separate vestibule, a waiting room and two treatment rooms.

It is planned to have the ear, nose and throat departments, the eye department, two surgical rooms, three medical treatment rooms and a waiting room on the second floor.

On the third floor will be a central lobby leading to two five-room suites for health examinations and for the mental hygiene department, in addition to three rooms for the use of the dental hygiene department, a laboratory and a room for the sanitary inspector.

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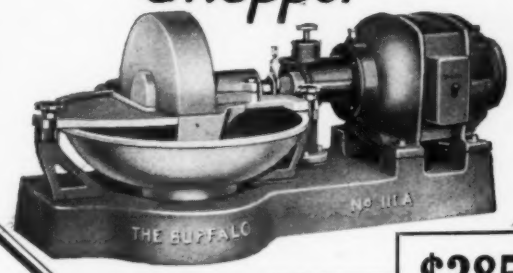

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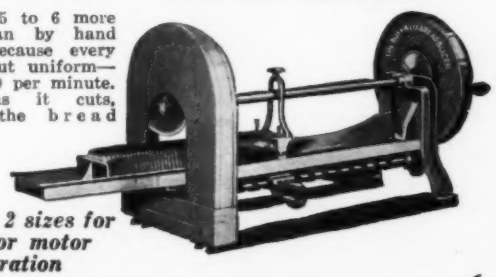

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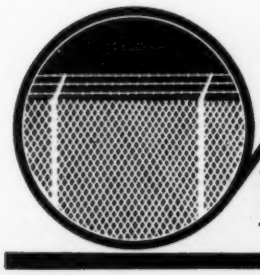

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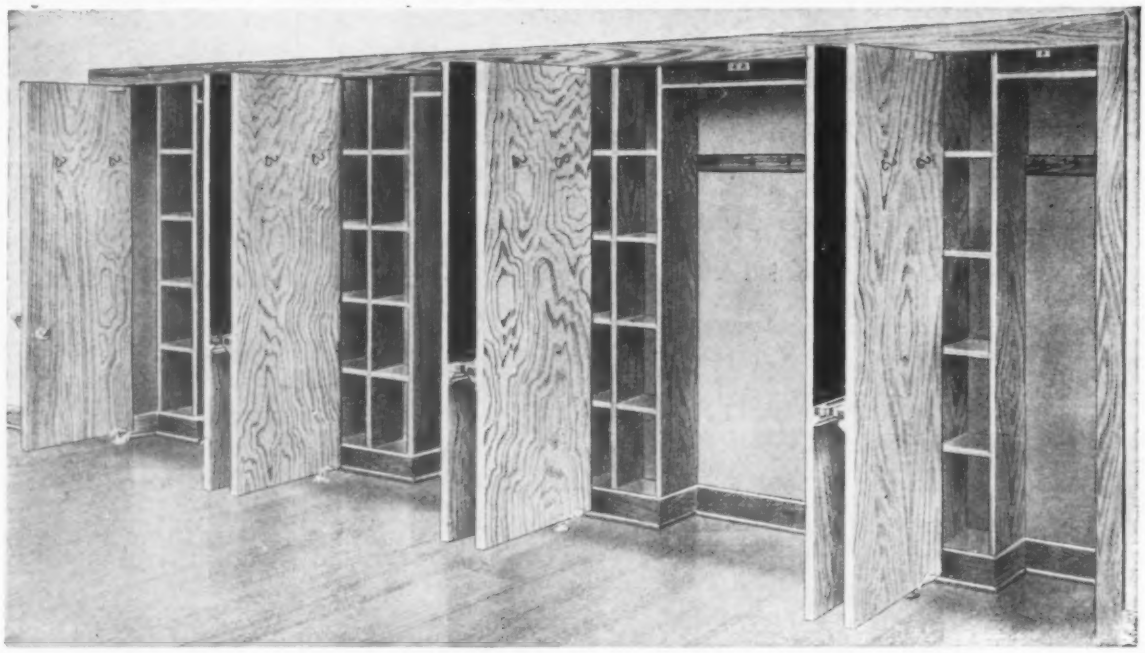

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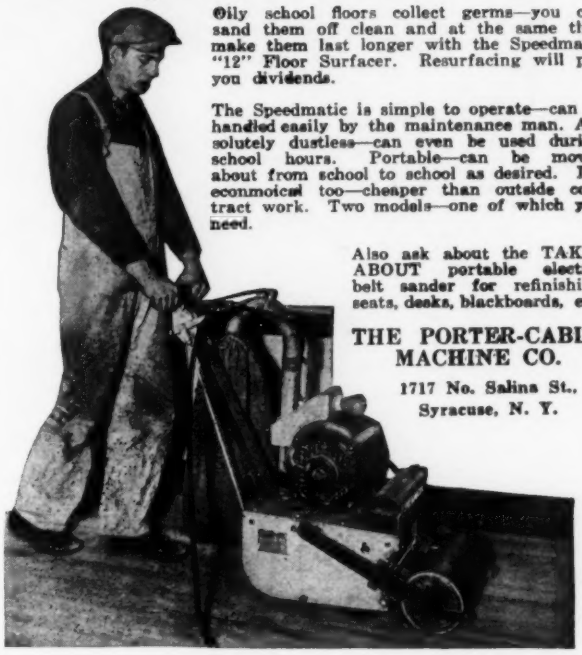

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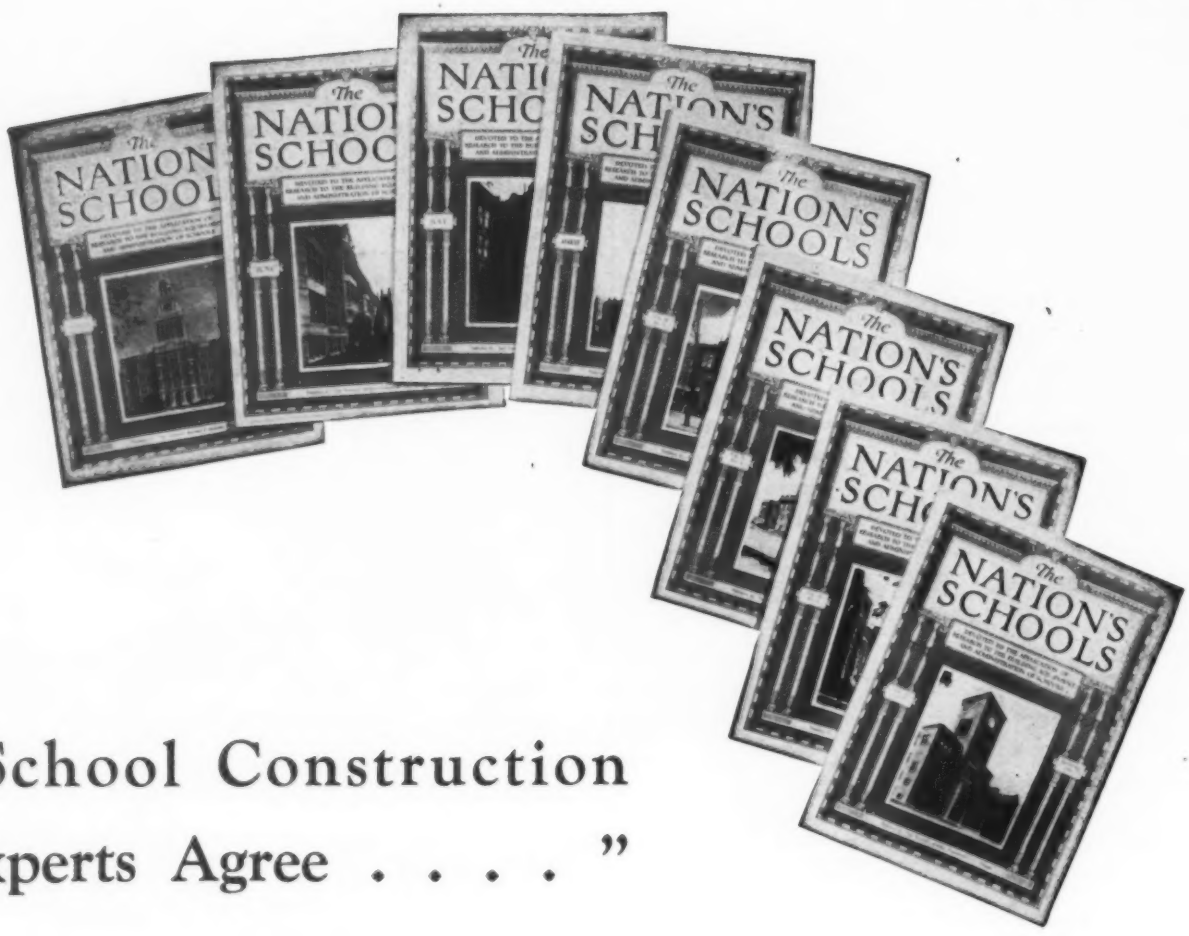

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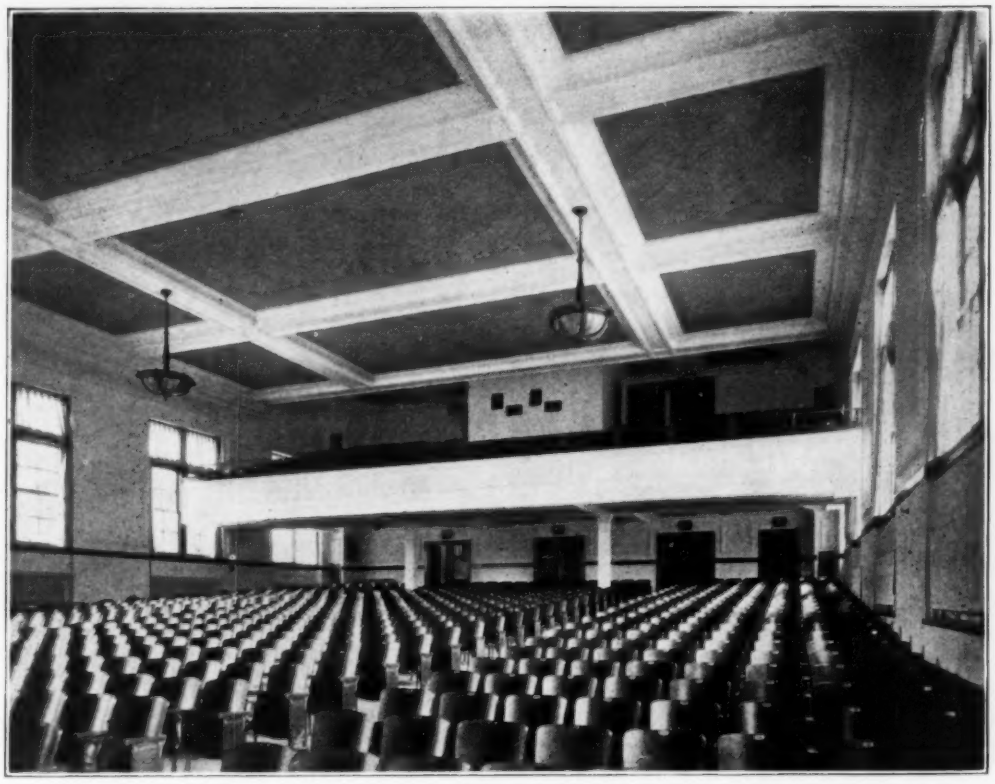
"What a difference in school assembly halls when noise is subdued, and disconcerting echoes stilled! Jumbled sounds become clean-cut words heard clearly and distinctly in every part of the room. Listening to lectures and concerts, changes from strained effort to pleasurable relaxation."

Only those offering approved products or services for schools are invited to use the advertising pages of The NATION'S SCHOOLS



Acousti-Celotex in the ceiling of LeClerc Hall, College of Notre Dame, Baltimore, Md., subdues noise . . . makes each spoken word clearly audible to every listener.

Every word CLEARLY AUDIBLE *in every part of the room*

WHAT a difference in school assembly halls when noise is subdued, and disconcerting echoes stilled!

Jumbled sounds become clean-cut words heard clearly and distinctly in every part of the room. Listening to lectures and concerts, changes from strained effort to pleasureable relaxation.

And this improvement is brought about easily and permanently by the application of Acousti-Celotex to the ceilings of your school building.

More and more, educators are learning that the Acousti-Celotex way is the most effective way of improving the acoustics of assembly halls. Many have discovered, too, that Acousti-Celotex quiets disturbing classroom noises—quiets the racket in corridors and manual training rooms—raises the efficiency of the entire student body.

Acousti-Celotex is a noise-absorbing cane fibre tile that comes in rigid units which are quickly applied to the ceilings of old or new buildings. These units are easily cleaned. Their natural color is a pleasing buff, but they may be painted without losing any of their sound-absorbing value.

The word CELOTEX (Reg. U. S. Pat. Off.) is the trademark of and indicates manufacture by The Celotex Company Chicago, Ill.

Write for our new folder, "Better Study Conditions in Schools." The services of our engineers are available to help you solve your acoustical problems.

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Acousti-Celotex is sold and installed by approved Acousti-Celotex contractors

ACOUSTI—CELOTEX
FOR LESS NOISE---BETTER HEARING

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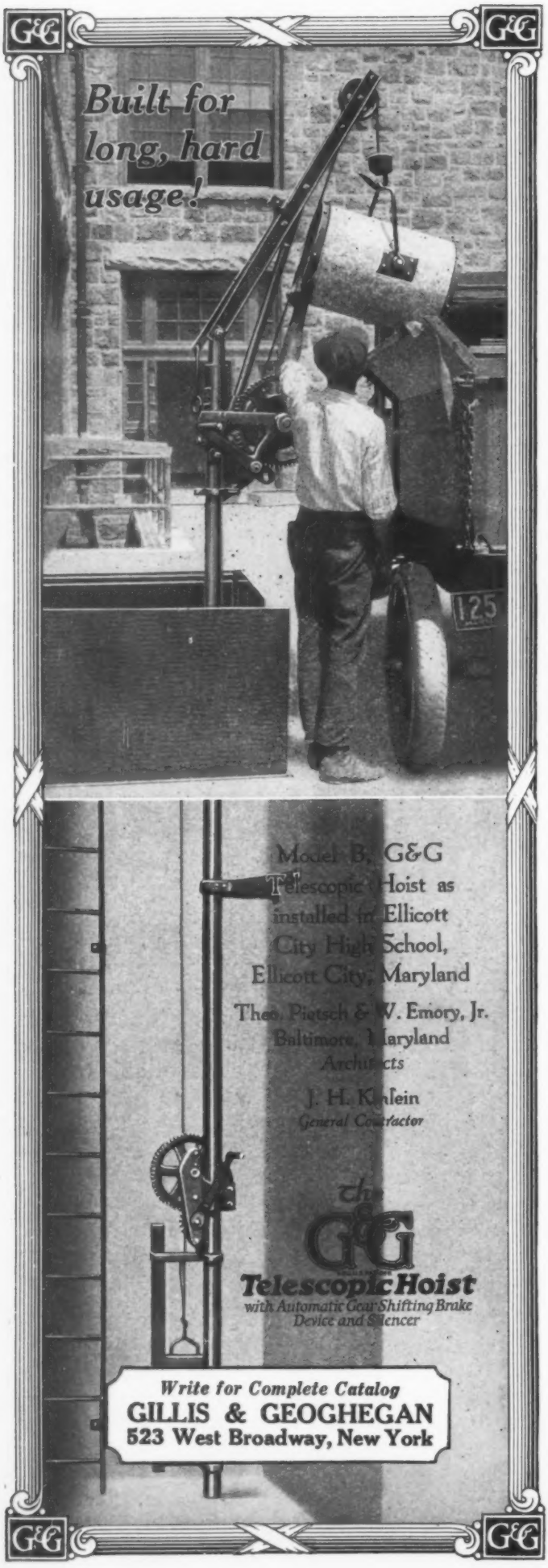
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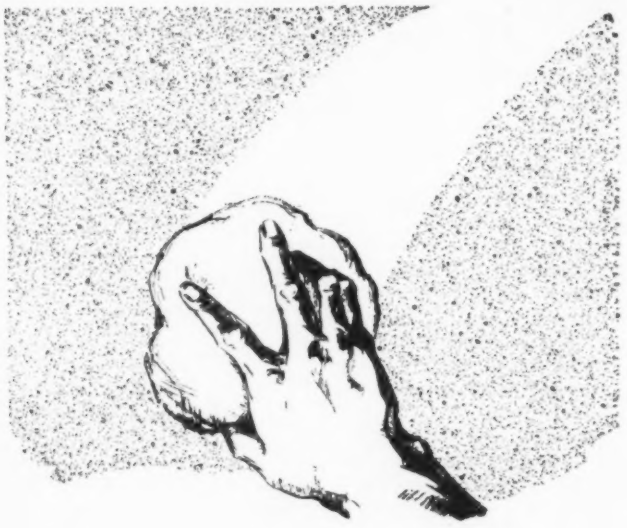

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Five Advantages of the Spencer Cleaning System

The Spencer Central Cleaning System is endorsed by leading architects and educators because of its distinct advantages over any other methods. The principal features are as follows:

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Higher standards of cleanliness. The central system is the only method which removes all dirt and dust from the room.
With light tools, and inlet valves spaced conveniently in every room, the time required to clean the building is reduced. All moving parts are located in the basement and designed for long life service without repairs.

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3

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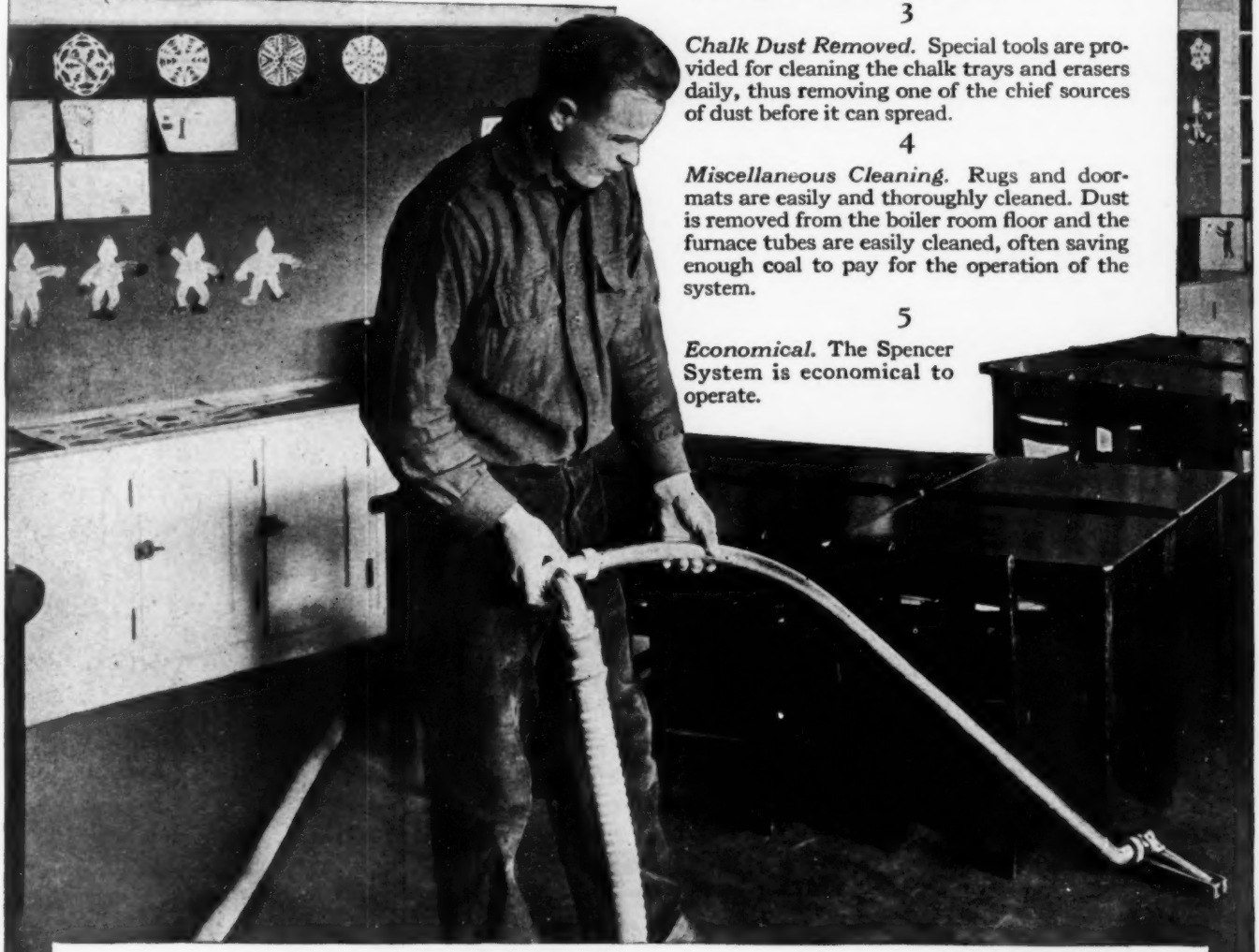

Send for this New Booklet

If you are interested in school design or management, we will gladly send you a copy of our new book "Modern Cleaning Methods for Modern Schools." It contains twenty-four pages of information and illustrations of more than a hundred modern schools.

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A COMPARISON

OF LAST YEAR'S FUEL COSTS FOR TWO SCHOOLS IN THE SAME TOWN

HIGH SCHOOL, with gymnasium and auditorium. 5100 square feet of radiation. Coal cost $525.00.

GRADE SCHOOL, neither gymnasium nor auditorium. 3200 square feet of radiation. Coal cost $1125.00.

NOTE: 1900 square feet less radiation but fuel cost $600.00 more.

THE high school, of course, has a Dunham Differential Heating system. The superintendent* says, "The results from the system have exceeded our fondest expectations. Our heating plant is one of the finest attractions in our new building, and the one that has given us the greatest satisfaction from the point of service and financial saving."

Dunham Differential Heating cuts fuel costs from 25 to 40 per cent, and at the same time delivers superior standards of heating service.

Differential operating principles are exclusive. No other type of heating system can deliver hot steam, warm steam, cool steam, regulated according to needs of the weather. No other system consistently operates at high vacuum (up to 25 inches) with positive circulation that delivers ample heat without overheating in the mild weather that constitutes 95 per cent of the heating season.

Investigate the performance of Dunham Differential Heating in buildings comparable to your own, and judge for yourself on the basis of facts. Write for descriptive bulletins. An engineer will counsel with you on your own requirements.

*Name and address on request

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The Dunham Differential Vacuum Heating System and individual parts of the apparatus used in that system are fully protected by United States Patents Nos. 1,644,114, 1,706,401 and 1,727,965 and Canadian Patents Nos. 282,193, 282,194, and 282,195. Additional patents in the United States, Canada and foreign countries are now pending.

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NEXT MONTH

In the March issue of The NATION'S SCHOOLS a complete report will be given of the meeting of the Department of Superintendance of the N. E. A. at Atlantic City.

School people who are unable to attend this convention will be interested to learn of the things accomplished and to review the dominant points considered by the delegates.

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Push button control electric motor operated dumbwaiters provide the quickest, safest and most efficient way of handling the school hoist problem.

The "Electric" is safe, silent and costs very little to operate. The "Electric" is manufactured in a number of sizes with any type of push button control.

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Manufacturers of

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Mr. Wetzel is a recognized authority on athletic seating—and will be glad to discuss your problems with you. Be sure to see Mr. Wetzel in Atlantic City —February 22 to 27.

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MOVABLE DESKS AND CHAIRS
Kindergarten Classroom Furniture

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LAMINATED

"Whale-bone-ite" has made possible a toilet seat strong enough to defy the slam-bang abuse of the public—to be guaranteed for the life of the building—to end immediately all replacement expense.

And without "Laminated" there would be no "Whale-bone-ite". "Laminated" wood is Nature improved by Science. Science secures immense strength with remarkable lightness.

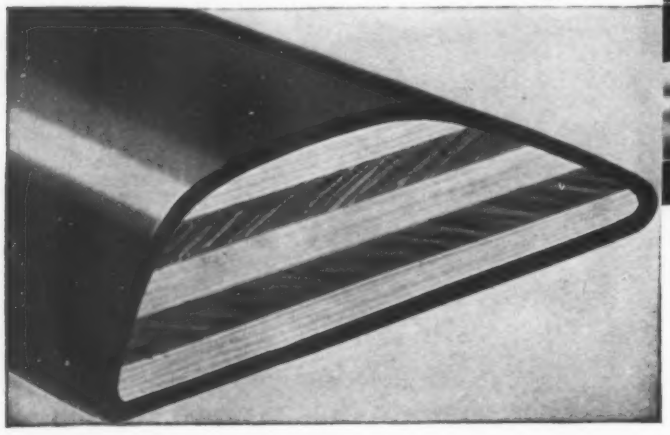
We and others have found it impossible to make a seat by any other method anywhere near as sanitary, as strong and as light. Fourteen years of service have proved its value. More than a million are in use. Those concerned with the design, construction and operation of buildings have found this experience safe to follow, so that today nearly all seats going into public toilets are of laminated construction.

The handsome polished Whale-bone-ite surface will last a life-time. It is easy to clean and non-inflammable.

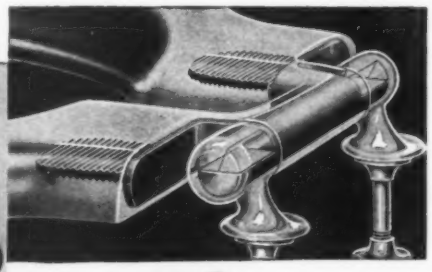
Whale-bone-ite Seats are found quite generally in the guest bathrooms of fine hotels as well as in public institutions where service requirements are severe. Many new apartment houses are equipping all toilets with them.

Send for free cross-section
— see its strength yourself

Figures show that on the average ordinary seats have to be replaced about every three years. If you want to end this needless expense, just as it already has been ended in more than a million public toilets in modern and remodelled buildings, simply install Whale-bone-ite Seats as fast as other seats wear out. Not only will the replacement expense end, but the toilets will be cleaner as Whale-bone-ite is easier to keep clean. Without obligation send for a free Whale-bone-ite cross-section. Simply address Dept. G-12, Seat Division, The Brunswick Balke-Collender Co., 623 South Wabash Ave., Chicago.



Note the Laminated Construction — a core of alternating-grain layers of hardwood — sealed and bonded to the whole by Whale-bone-ite. It is warp-proof and is guaranteed against warping, cracking and splitting.



The Whale-bone-ite steel hinge is moulded integral with the Seat forming an unbreakable unit. Covered with Whale-bone-ite, the hinge is as handsome as the Seat. It cannot tarnish. It is easy to clean.

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WHALE-BONE-ITE

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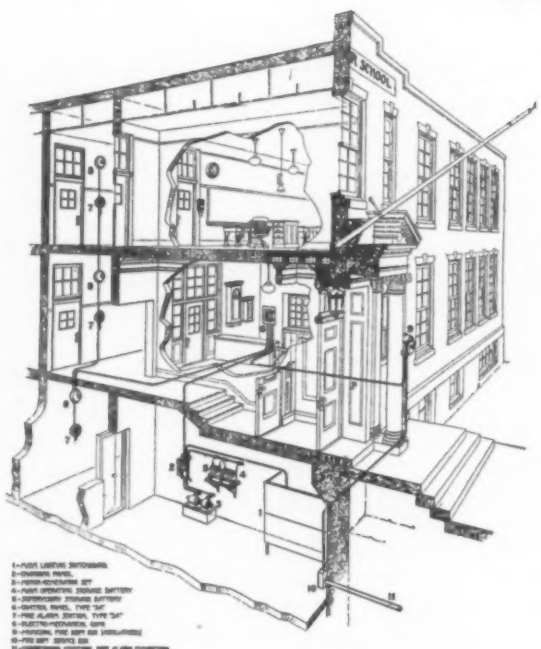

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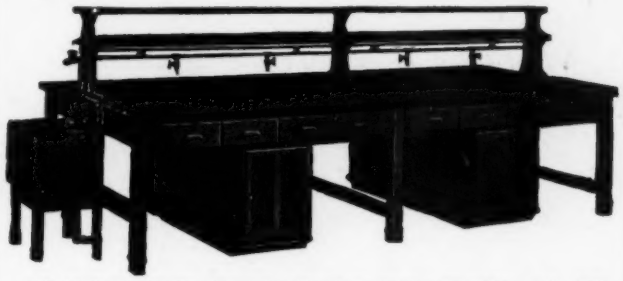

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First Aid Prophylactic and General Antiseptic Use

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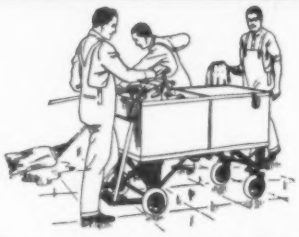

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Our Floor Maintenance Engineer will help you reduce floor cleaning costs. Write NOW and literature will also be sent you about the Lawlor Method.

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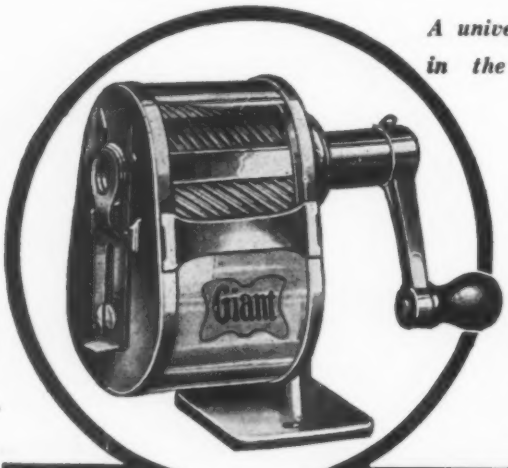

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An "Apsco" Automatic Pencil Sharpener

There's Inspiration in a Sharp Pencil!

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specially tempered steel springs give the new 1930

NORTON DOOR CLOSER

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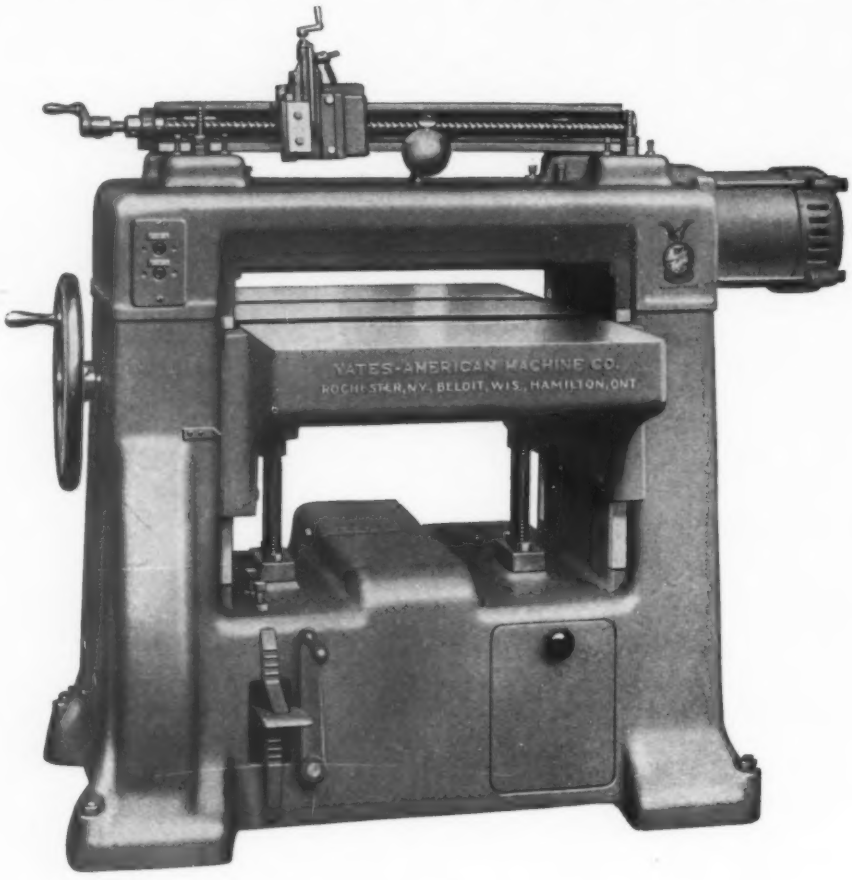
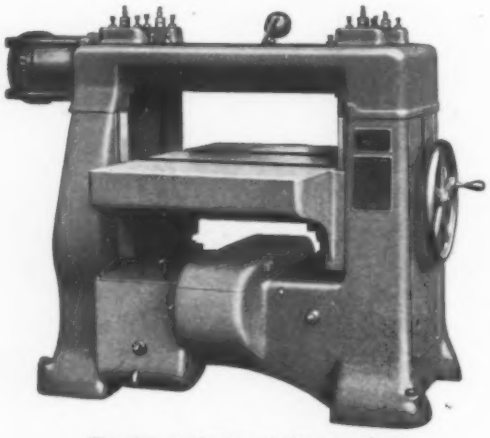
NORTON DOOR CLOSERS



A School Surfacer of Unequalled Quality

B-4

Single Surfacer



The view at the top of the page shows the front of the B-4 and here is shown the rear of the machine. The clean-cut, compact and sturdy construction of the B-4 is readily apparent. Built in 14"x8" size only.

UNEQUALLED because in no other make single surfacer for school use is there the staunch, rugged and durable construction, together with positive safety and operation features as is found in the B-4. Note in the illustrations of the B-4 here the rigid one-piece construction and also the fact that every operating part is fully enclosed. Note the direct motor drive and the convenience of the push button control. These and many other features along with B-4's moderate cost are influencing more and more school executives and woodworking instructors to install this machine in their school shops.

Write for the new Yates-American school catalog which will be ready for distribution about the first of the year and which will describe and illustrate the complete Yates-American line of school woodworking machinery.

Yates-American Machine Company

Vocational Division

BELOIT, WIS.

Your School is no more efficient than its seating is modern

Modern schools demand modern seating! Obsolete seating belongs to "the little old red school house". Inefficient, depressing, inhuman, out-of-date seating cripples administration—handicaps pupil progress. Give your modern school *modern* "American" seat protection. At no extra cost you get advance features of design and workmanship—developments encouraging good posture—hygienic improvements contributing to good health that only a half century of experience and skilled research has made possible.

The factory is in Michigan but the *Service* is *Local* to you

American Seating Company

14 EAST JACKSON BLVD. · CHICAGO

Branches in All Principal Cities

The 25,924 seats in the Atlantic City Convention Hall were built and installed by the American Seating Company

Visit the "American" Exhibit *at the* Atlantic City Convention

To the N. E. A. Convention Greetings!

Your Most Profitable Connection for 1930

The Valleyco Line Blackboards

AN EXCLUSIVE proposition which assures you splendid profits and utmost satisfaction . . . backed up by hight grade quality products . . . reinforced by widespread advertising . . . a double-barreled proposition which has gone over tremendously with leading jobbers in America and foreign countries.

Some highly desirable territory now open for 1930 franchise..write TODAY.

The Valleyco Co., Inc.

116-118 E. Water St., Cincinnati, O., U. S. A.

"INTER-TWILL" Window Shades for SCHOOLS

Fulfill all requirements

Specify—"INTER-TWILL" because . . . there are more years of service in these window shades. It is a TWILL woven fabric of exceptional strength. "Inter-twill" shades are washable.

If total exclusion of light is desired, specify Interstate "NOLITE" Shade Cloth. Shadowless and light-proof in all colors including light colors and white.

Made in the color tone of your choosing

Interstate Shade Cloth Co.
HOBOKEN NEW JERSEY
and
The Lapsley-Interstate Shade Cloth Co.,
Baltimore Maryland

Overshoes — Damp Clothing — Umbrellas

There's only one Proper Place for them!

And that is in a Ventilated MILLER WARDROBE

The MILLER WARDROBE has two important functions . . . perfect storage of wraps and ventilation for schoolrooms and halls. The illustration shows a corridor installation of the MILLER WARDROBE. This installation is used in schools where the platoon system is not followed. "K" type MILLER WARDROBES for schoolrooms are usually equipped with blackboards to afford additional blackboard space. Send for our attractive catalog K-7 which illustrates the uses of various types of MILLER WARDROBES.

K-M SUPPLY COMPANY

119-123 West Eighth Street Kansas City, Missouri

And the men who traveled East, met the men who traveled West

This first proof of the World's Roundness— Let your pupils trace it on a W. C. Globe!

In 1521 on the island of Tidore in the Malay Archipelago, the Portuguese after sailing around Africa met members of Magellan's crew who had sailed around South America . . . the men traveling Eastward . . . met the men Westward bound. This was the first undeniable proof of the Earth's roundness.

Let your pupils trace epochal discoveries, follow history-making expeditions—bring fact out of fancy as their fingers traverse the Globe.

But be sure it's a Weber Costello Globe made under American editorial and educational supervision containing the teaching information that educators agree is in step with modern methods. Non-fading, clear, attractive, accurate—with *all* information *essential* to an intelligent demonstration of geography and kindred subjects. These qualities are made possible by more than 50 years of experience in producing globes for America's schoolrooms.

Every Classroom Needs a Weber Costello Globe

Address Dept. G221 for information fully describing and illustrating Weber Costello Globes and Maps for every schoolroom requirement.

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MAKERS OF *Sterling Lifelong Blackboard—Globes*

TIME TESTED W.C. SCHOOL SUPPLIES

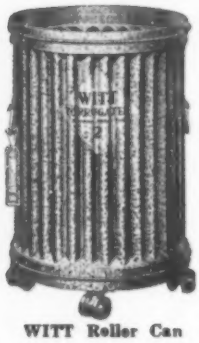
Old Reliable Hyloplate—Erasers Maps—Crayon

55 Distributor Warehouses Assure You Immediate Service

When at the N. E. A. Convention, Visit the Weber Costello Exhibit—Booths G-40-42-44.

The Name that Assures Can Satisfaction—

WITT Ash Can



WITT Roller Can

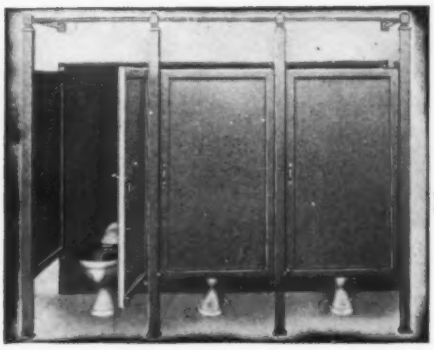
WITT

For more than 30 years the name "WITT" has stood for highest quality, utmost service under hardest usage, economy in the long run. Look for it —insist upon it—when you buy Ash and Refuse Cans and Garbage Pails.

WITT Corrugated Cans and Pails are made of heavy-gauge metal, hand hot-dip galvanized. Strong, safe, sanitary. Odor-tight, water-tight. GUARANTEED to outlast from 3 to 5 ordinary cans. All the popular sizes to meet every requirement.

If you cannot obtain WITT Cans and Pails from your local supply house. write

THE WITT CORNICE CO.
Can Specialists Since 1899
2120 Winchell Avenue Cincinnati, Ohio



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EBCO STEEL PARTITIONS

FIRE AND VERMIN PROOF

WON'T BEND OR WARP

100% Steel . . . copper bearing to resist rust . . . with and without doors . . . easy and economical to install . . . can be supplied in any number of units desired. Installed in leading schools, colleges, factories and institutions everywhere.

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THE D. A. EBINGER SANITARY MFG. CO.

401 W. Town St. Columbus, Ohio

Manufacturers also of Ventilated Urinals, Closets, Wash Fountains and Drinking Fountains—ice and electrical.

THE NATION'S SCHOOLS today has more full-time school executive subscribers than any other magazine devoted to the problems of school administration. Such leadership is a measure of its service to school people—a service only two years in duration, but which has become outstanding.

The year 1930 will witness the materialization of a yet more intelligent and practical program. More school people who are authorities on the problems that intimately concern your efforts will be added to the list of contributors. Greater help will be extended to you, now that we have your acceptance and are in a position to claim the foremost place among school administration journals.

The NATION'S SCHOOLS is the school superintendent's magazine. It has an essential place in your profession. And it is devoted exclusively to your own problems.

Building Better Students and Worthier Citizens in Kansas City Schools

VOCATIONAL training and practical arts have won a recognized place in modern education. The old fashioned thought in education was to stress the academic and cultural courses of language, history and science in the abstract. But educators today, while not losing sight of the value of academic courses, realize that the first requirement of an education is to equip the student to meet life. As far as possible, they want students to step from their classes into the business of living as naturally as possible. They want to eliminate the "shock years"—when the student must readjust his school-learned knowledge to the world as it really is.

The device that bridges the gap between the academic and the practical—is the shop. And educators find that this is more than a mere bridge. Shop courses serve as an incentive to students. Young boys, fairly overflowing with life and energy, require an outlet that is not afforded by the academic courses. Actual school records show that scholastic standings in academic courses have been raised with the introduction of shop courses.

In the Public Schools of Kansas City, as in many other cities—students are thrilled by the whir of Wallace Woodworking Machinery. They are delighted with the keen cutting band saw, the tilting arbor circular saw, the smooth cutting jointer, the lathe and other Wallace Machines that convert raw lumber into countless useful articles for the delight and instruction of tomorrow's citizens. In Wallace Machines, there is safety—each machine being thoroughly guarded. And they are not big mill machines, they are cabinet shop machines which boys may operate with ease and convenience.

Mr. O. H. Day, Director of Vocational Education and Practical Arts of the Kansas City Public Schools, writes:

> "We have been using Wallace Woodworking Machines in our schools for the past four years and find them to be satisfactory. We find them particularly adaptable to schools. They are very well constructed and do excellent work.
>
> "We also wish to express our appreiation of the quality of the service rendered us and the help that we have had in learning the details of the construction of these machines."

Other School Directors everywhere, are equally enthusiastic about Wallace Machines. Investigate them now!

Wallace Portable Lathe

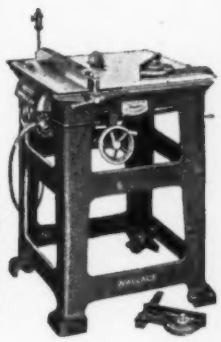
Direct drive; dynamically balanced. Will handle material up to 5" in diameter. 36" long.

The Wallace Lathe is equipped with a constant speed G. E. Motor, 6" and 12" tool rests, spur center, screw chuck, face plate hand wheel, special wrench and locking pin, and 10 ft. heavy rubber covered cord and armored plug.

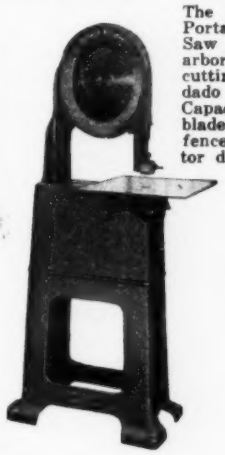
J. D. WALLACE & CO.
141 S. California Ave.
Chicago, Ill.

Safe Instruction with WALLACE Machines

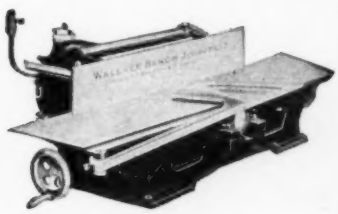
Students stand naturally as they work at Wallace Machines. There is no strain. Wallace Machines are used in industry—more than 40,000 are at work establishing new records of speed, efficiency and accuracy. Yet they are not big, cumbersome mill equipment. They are cabinet making machines that fit school woodworking needs. Portable and driven direct from the electric light socket. Send the coupon for complete catalog.



The Wallace No. 8 Portable Universal Saw has a tilting arbor. Will do heavy cutting up to 2¼", dado up to 1" wide. Capacity between blade and cut off fence 12". Direct motor drive.



The dynamic balancing of the WALLACE Band Saw together with the accuracy of the table assures quick and perfect cutting to the line of the finest of band sawing. Is sufficiently powered to handle heavy stock up to 8" thick. Sixteen inches can be handled between the blade and frame; unlimited capacity right of blade.



The Wallace No. 10 Portable 8" Jointer cuts 8" wide, rabbets or bevel cuts ¾" deep. Direct motor drive. Four high speed steel knives.

J. D. WALLACE & CO.
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CHICAGO - - - - - ILLINOIS

J. D. Wallace & Co.
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Chicago, Ill.

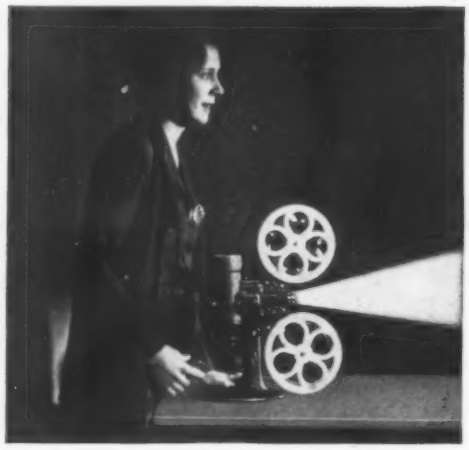
Please send us your complete catalog describing Wallace Woodworking Machines for school woodshops.

Name .....

Address .....

City ..... State.....

Education Is Life

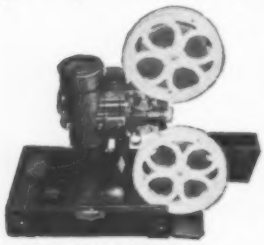


Visualize Life With FILMO School Projector

Education is life. And life is idealistic, friendly, dynamic, practical, recreative, progressive and co-operative. This commendable new philosophy of education—the keynote theme of the sixtieth annual meeting of the Department of Superintendence of the N. E. A.—finds its most able expression through visual instruction with Filmo School Projector.

For, as thousands of leading educators can testify, Filmo School Projector makes it possible to bring life itself into the class room to augment the spoken word and copy book text.

Sensibly designed and finely manufactured for this very purpose by the same master Bell & Howell craftsmen who, for more than 23 years, have furnished the professional studio cameras and equipment used in producing a majority of the world's feature photoplays, Filmo 57-E School Projector stands in a class by itself—the most complete, compact, precise, versatile and easily operated motion picture projector yet offered for school use.



Filmo 57-E *School Projector, 250 watt, 5 amp. lamp, fixed resistance, 45-50 condenser, geared rewind, safety shutter. With special new type base case $205.00. Other models from $190 up.*

See Filmo 57-E Demonstration at Booth No. K-29, Dept. of Superintendence, N. E. A. Meeting, Atlantic City, N. J., Feb. 22 to 27. Or write today for descriptive literature, list of educational film supply sources and the name of a nearby Filmo dealer who will gladly bring Filmo to your school for free demonstration.

BELL & HOWELL

Filmo

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New York, Hollywood, London (B. & H. Co., Ltd.) *Established 1907*

IN San Francisco's new Five Million Dollar Hotel The HOTEL Sir FRANCIS DRAKE *the window shades are of* HARTSHORN JOANNA CLOTH *mounted on* HARTSHORN ROLLERS

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San Francisco, Cal.
Architects
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San Francisco has reason to be proud of its beautiful new six hundred-room hotel, the Sir Francis Drake, set in the midst of the downtown shopping and theatrical district. Every detail of its equipment, "from flag pole to basement", is the finest anywhere obtainable . . . consequently, the window shades are of Hartshorn Joanna Cloth, mounted on Hartshorn Rollers . . . Mr. L. S. Huckins, one of the owners, writes: "Your installation of Joanna Window Shade Cloth on Hartshorn Rollers has given us complete satisfaction."

STEWART HARTSHORN COMPANY
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SHADE ROLLERS *and* WINDOW SHADE CLOTH

Teachers Know the Strain of The Last Hour

It's the last hour of the school day that brings the greatest nerve strain. It is then that tired, uncomfortable, restless children pay less attention to studies—get into trouble and cause teachers most worry.

Avoid last hour strain on the part of pupils and nervous strain on the part of teachers, by equipping with *National Seats of Comfort* with the famous

Moeser Extended Arm

Relieves "Last Hour Strain"

No. 181
Combination Desk with Moeser Arm Top. Standards finished in durable, baked enamel; woods, in Natural process finish, both in a soft brown color.

In National Desks, equipped with the Moeser Extended Arm, pupils sit squarely in their seats. The back is supported when writing—working space is more than doubled — no turning to rest arm while writing—eliminates facing light and uncomfortable positions that bring on "last hour uneasiness." When writing the arm is supported, resulting in better penmanship. National Desks are shaped to conform hygienically to the human figure—they encourage correct posture—insure greatest comfort—less fatigue—less eye strain—better grades in last period classes and less worry and nerve strain on the instructor.

This 10 Point Test Leads to National

1. **Health**
2. **Comfort**
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5. **Durability**
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7. **Lasting Finish**
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Years of collaborating with America's leading educators, together with our own exhaustive research and experiments, have resulted in equipment noticeably superior from the viewpoint of these 10 Major Tests for All School Seating.

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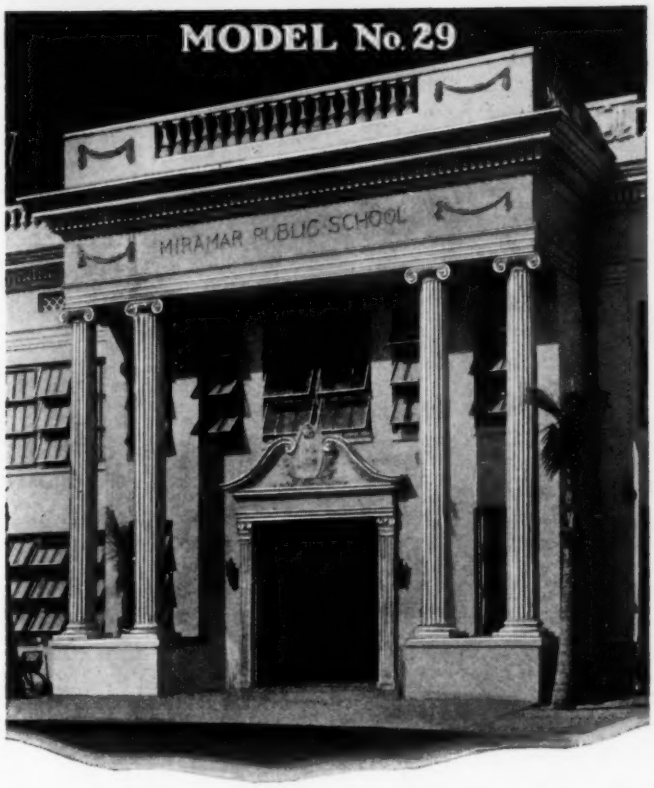
If you are a buyer of School Equipment you will want our latest catalog on School Desks. All types of school chairs and teachers' and office desks. We will send our catalog free and prepaid on request.

See our exhibit at the N. E. A. Convention, Atlantic City, N. J., Feb. 22-27, 1930

The National School Equipment Co.
Manufacturers of Complete School Equipment
PORT WASHINGTON, WIS.

NATIONAL School DESKS
"Famous for Comfort"

TRUSCON DONOVAN AWNING TYPE STEEL WINDOWS



for Health and Safety

Diffused sunlight and draughtless ventilation are provided for schools, offices and other buildings by Truscon Donovan Awning Type Steel Windows. They are operated very simply without window poles by the movement of the lower sash which controls the upper sash. The shades on the open windows act as awnings. Their high quality is evident in their superior design and workmanship. Their cost is moderate due to large production. Full information, literature and quotations on request.

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Equipment and Supplies

A COMPLETE line of lighting specialties for the stage, campus, and stadium can be furnished by Kliegl—for school theatricals; night illumination of athletic events and other outdoor school activities. To insure satisfactory lighting arrangements—submit your plans and specifications to our engineers for checking. Write for literature on Kliegl Lighting Specialties, including:

Spotlights	Color Wheels	Connectors	Footlights
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Scenic Effects	Stage Cable	Shutters	Panel Boards
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UNIVERSAL ELECTRIC STAGE LIGHTING CO., INC.

ESTABLISHED 1896

THEATRICAL · DECORATIVE · SPECTACULAR

LIGHTING

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NEW YORK, N.Y.

For Positive Door Control

No. 453

STANLEY SW

No. 454

TO PERMIT positive control of classroom doors and to prevent their slamming, Stanley offers two new Friction Roller Door Holders.

Silent in operation, these Door Holders will hold the door in any position for ventilation and at the same time assure privacy for each room.

Two types — Surface No. 453, Mortise No. 454

Full information upon request

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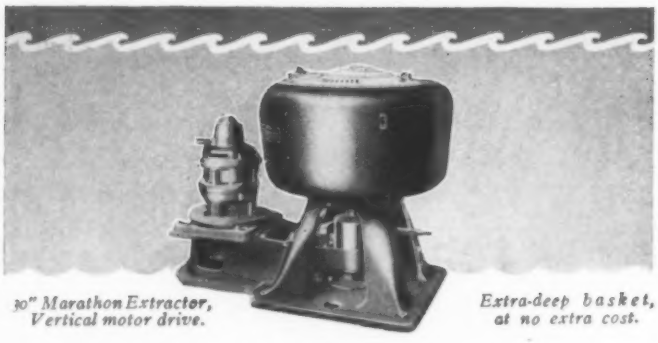

30" Marathon Extractor, Vertical motor drive.

Extra-deep basket, at no extra cost.

Roomier basket . . . greater extraction

Marathon's extra-deep basket and high speed make possible capacity extraction in a fraction of the usual time. For laundering towels, athletic uniforms, bed and table linens, Marathon Extractors like other Troy machinery prove dependable and economical. Feel free to call on TROY SCHOOL ADVISORY SERVICE for expert assistance in planning your school laundry. No charge . . . no obligation.

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Since 1879—The World's Pioneer Manufacturer of Laundry Machinery

THE problems of school administration concern the operation of the school plant as well as the supervision of teacher and pupil.

The service department of The NATION'S SCHOOLS is at all times in a position to advise on purchasing sources for all types of school building materials and equipment and to see that the school executive is put in touch with a reliable manufacturer for any of his needs.

A letter or postcard will bring prompt response and aid.

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Maple Flooring for Schools

REPEATED tests have proven that there is no substitute for hard maple floors in schools. Its even textured fibres toughened by hard winters assure you of the floor which will withstand the rough and hard usages to which they are exposed by children's feet. By specifying Robbins Hard Maple Flooring you are assured of a first class floor.

ROBBINS FLOORING CO.

Members M. F. M. A.

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Moving Books from Floor to Floor

Sedgwick Dumb Waiters save time, labor and expense in many libraries and schools because they perform lifting duties so efficiently and cost nothing to operate.

Write for Form 136, which outlines information needed by us to recommend the exact outfit that will give best results for the carrying of food, supplies and other loads from floor to floor. Address Sedgwick Machine Works, 165 West 15th St., New York.

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Dumb Waiters - Elevators

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PURIFY THE AIR

CROWDED conditions in schools and institutions *make the use of Eagle Deodorizing and Air Purifying Blocs and Crystals an absolute necessity.* They actually recondition the air and are not merely perfumes. Eagle Blockettes for use in urinals and toilets are easy to use and economical. Write for samples.

EAGLE SOAP CORP.

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HOW GOOD - HOW REASONABLE

is the Secret of the Greater

Economy in Building

KLEIN'S

All Wool—Waterproofed

School Band Uniforms

All Wool, Fast Color, Tailored to Individual Measure

75th ANNIVERSARY SPECIAL

Coat, Trousers and Overseas Cap ...	$16.75
Cape and Overseas Cap.....	7.00
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Style 50

In any desired color combination

Monograms at slight additional cost.

Regular line reasonably priced according to quality

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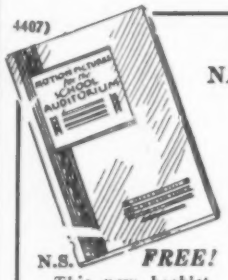
MANY a school auditorium has paid for its complete equipping through the benefit performances of school pupils and through entertainments to which admission is charged. Regular programs of good motion pictures are today outstanding among the attractions of the average school auditorium. The popularity of such programs depends not alone upon the kind of pictures shown but on the excellence of their showing. Getting good projection—clear well defined pictures—is a problem that demands the attention of projection experts . . . a problem that National Theatre Supply Company can solve for you. National Projection Experts will cooperate with the school architect as he plans for the projection booth and stage layout; will help you select the equipment best suited to your individual needs, and will supervise the final equipment installations . . . a complete service for the school administrator that combines the highest excellence in projection results with the greatest purchasing economy.

World's Largest Distributors of Auditorium, Stage and Projection Equipment



N.S. *FREE!*

This new booklet "Motion Pictures for the School Auditorium" is ready for you now.

EDUCATIONAL DIVISION
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Please send me free of charge and without obligation a copy of the new booklet Motion Pictures for the School Auditorium.

Name .....

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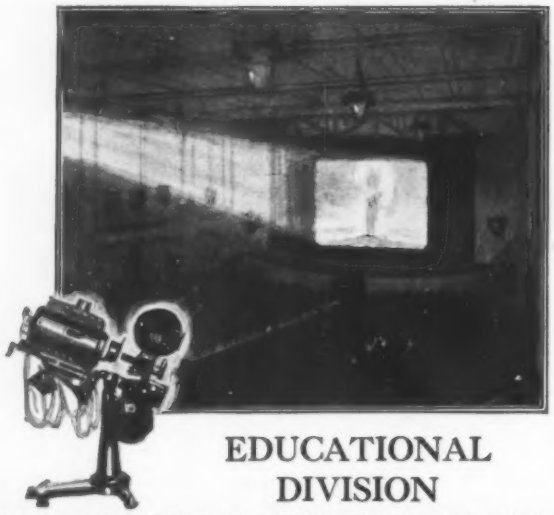

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NATIONAL THEATRE SUPPLY COMPANY
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Offers for the Fall and Winter Season

Single Rooms with Bath—
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Double Rooms with Bath—
From
$42.00 weekly, European Plan
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Sea Water Swimming Pool
Marine Sun Deck-Concert Orchestra

Under the management of Charles D. Boughton

Serve School Children

health-building lunches of Bananas and Milk

School cafeterias everywhere are finding this an energy-building combination

WHAT shall we give the children for lunch? For the snack at mid-morning recess? A ripe, tasty banana and a glass of creamy milk.

Both these foods are inexpensive and available all the year round . . . easy to serve in a number of appetizing combinations. Simplify lunch-time service by encouraging children to eat bananas and milk.

Authorities agree that the nourishing banana, when eaten with milk, forms a practically complete food, rich in the bone-, muscle- and energy-building elements vital to the growing child. Doctors are suggesting this combination to parents. Schools are serving it consistently as a healthful luncheon.

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Try to teach children which foods are good for them. The easiest way to accomplish this is through the use of attractive pictures — daily reminders. We have prepared the wall card pictured above to suggest a nourishing and economical luncheon for children. Beautifully reproduced in eight colors, it appeals to the eye and so to the appetite. Send for this wall card. It is FREE and there are no obligations. Just clip the coupon at the right and mail to us today.

This FREE *wall card suggests a healthful lunch combination to children*

* * *

"America is 'dining out'" contains helpful suggestions for luncheons. Send for it; it's free

Educate children to proper foods . . . serve them bananas and milk

* * *

FREE Recipe Booklet

Send for a *free* copy of "America is 'dining out'." It contains a number of suggestions for tasty and appetizing dishes—special emphasis on cafeteria service. Read how the discoloration of bananas which must be prepared in advance can be avoided. Clip the coupon below and your copy of this booklet will be mailed with the wall card immediately.

N S 2-30

UNITED FRUIT COMPANY
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Please send me the Banana and Milk Wall Card and a copy of "America is 'dining out'" with no obligation to me.

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School_____

Address_____

City_____ State_____

ALL SIZES AND STYLES OF TUMBLERS

The basic material in the manufacture of glass is sand. Only the purest white sand is used in ⌂ *glass. This is obtained from our own quarries at Great Cacapon, West Virginia, and shipped in clean paper lined cars to our ten factories.*

No. 2 of a series of advertisements

ALL ⌂ TUMBLERS are strongly constructed and clear in color. Glazed edges and smooth bottoms are other features. Our immense production and 100% automatic equipment enable you to purchase ⌂ TUMBLERS at no increase in price over other tumblers.

Your Glassware Supply House will serve you with samples and prices of

⌂ TESTED TUMBLERS

THEY ARE GUARANTEED TO OUTLAST THEM ALL

HAZEL-ATLAS GLASS CO.
WHEELING, W. VA.

WORLD'S · LARGEST · TUMBLER · MANUFACTURERS

CLEAN DISHES

are the basis of a good meal for even deliciously cooked food is not appreciated if the table service shows signs of imperfect cleaning.

Wyandotte
Cleans Clean
Sanitary Cleaner and Cleanser

is your guarantee of faultlessly clean glass, china, and silverware.

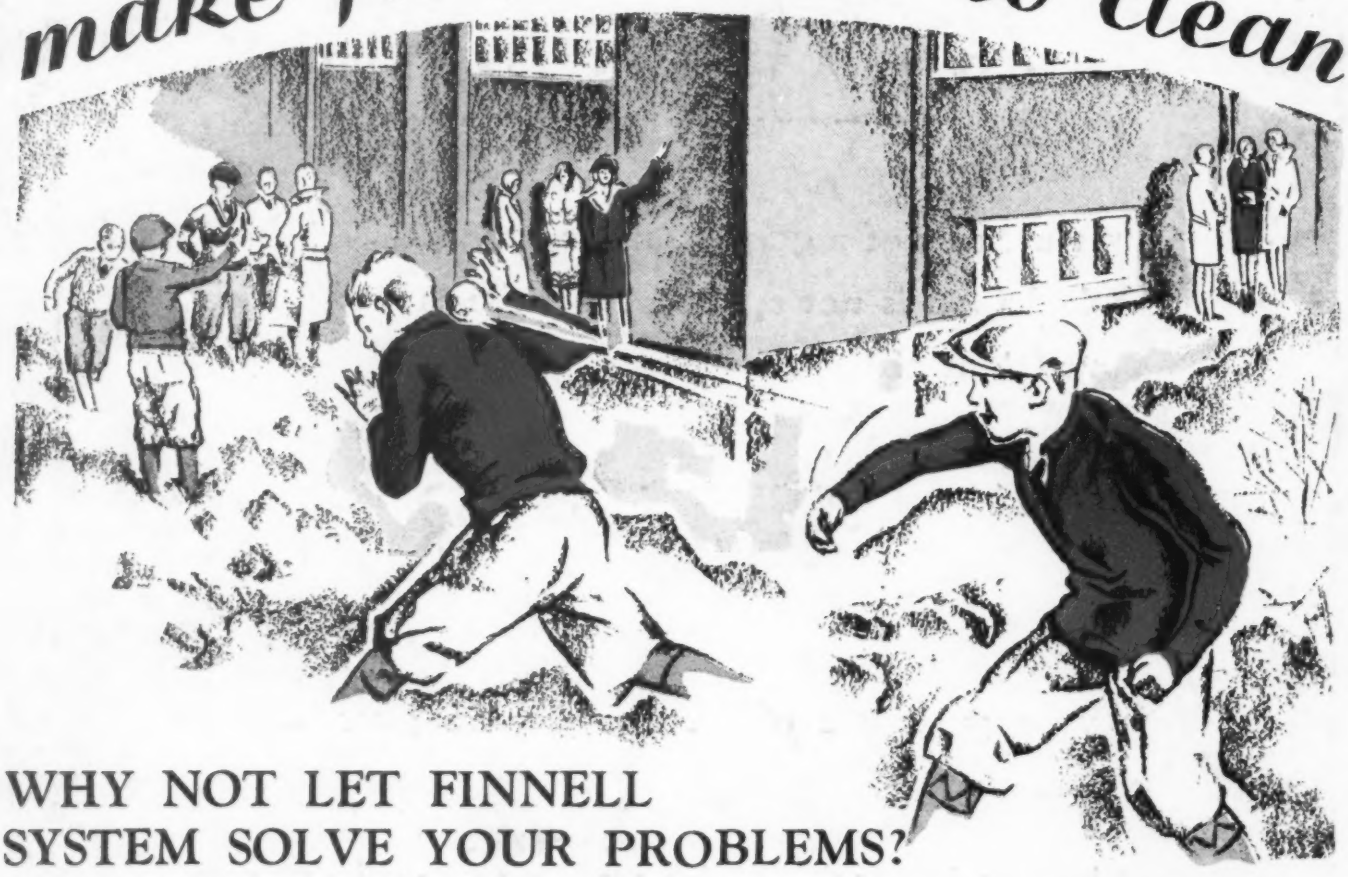
It insures in machine dish washing as well as hand washing, the added touch of perfect cleanliness and sanitation which is the right background for deliciously cooked appetizing food.

Ask your supply man for
"WYANDOTTE"

The J. B. Ford Co., Sole Mfrs., Wyandotte, Michigan

SNOWY, MUDDY FEET

make floors hard to clean



WHY NOT LET FINNELL SYSTEM SOLVE YOUR PROBLEMS?

Through snow and ice, through rain and mud, the youngsters gaily tramp, caring little where they step. Much of this dirt, grime and mud is carried with them into the classrooms. It's no wonder caretakers, custodians and superintendents sometimes despair of keeping school floors clean.

And yet schools, perhaps more than any other institution, *must* keep floors clean. Taxpayers expect it. The children's well-being demands it.

FINNELL SYSTEM will meet the need

The FINNELL can keep floors scrupulously clean where hand methods fail, because it can do the work much faster, cover more space, and do a far better job than is ever possible the old-fashioned way.

The FINNELL *scrubs, waxes, polishes electrically.* Can be used on any kind of floor. The fast-moving brushes dig down beneath even the most stubborn coating of oil and grime until every particle of dirt is routed.

Cleans every square inch of space

In the corridors and gymnasium, in classrooms and locker rooms, where seats and lockers make cleaning difficult, even on the stairs, FINNELL SYSTEM can be counted on to keep floors immaculate.

There are eight FINNELL models—an exact size to meet your requirements. Let us investigate your needs and submit an estimate of the size and type of system which will meet them economically. No obligation whatever. Write FINNELL SYSTEM, INC., 1502 East St., Elkhart, Ind. Branch offices in all principal cities of the United States and Canada.

THE FINNELL SYSTEM

will be on exhibit at the
National Education Association
Department of Superintendence Convention

BOOTH D-40
CONVENTION HALL
ATLANTIC CITY—FEB. 22-27

You are cordially invited to call and inspect the various sizes and models.

It waxes—
It polishes

FINNELL

It sands—
It scrubs

ELECTRIC FLOOR SCRUBBER-POLISHER